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I

THE SCHOOL AND INDUSTRIAL LIFE

The American school is under fire—it is always under fire. Just now it is said that its curriculum is overloaded with fads and frills which burden the child and hamper his training in subjects essential to his success in life. Public opinion is critical of a system which makes easy the advancement of a few to positions of commanding influence, but which provides no vocational training for the many who can not afford to remain in school beyond the elementary grades. The demand is for equality of opportunity in education without regard to social rank or wealth or any special privilege, that kind of equality which enables one to become a good American citizen, and which, as I understand it, is established on the ability to earn a decent livelihood and the determination to make one's life worth the living.

The instruction given in our public schools is chiefly of two kinds: (1) humanistic, including language and literature, history and civics, and the fine arts; and (2) scientific, including mathematics, geography, physics, chemistry, and biology. Our schools also provide for training in the practical arts which are required in the study of these subjects, preeminently the arts of reading, writing, singing, and drawing. Of late years the attention given to hygiene has begotten systematic training in gymnastics and athletic games. Our school work, however, is bookish, a term of reproach with some, but properly understood it stands above criticism. That which is worth knowing about human progress is for the most part contained in books.

The scientific studies, as well as the humanistic, have been recorded in books; indeed, it would hardly be creditable to our civilization if the achievements of one generation were not made available for the generations that follow after. And what form more enduring, what form more available, than in writing which may be read by all who are willing to master the conventional arts confirmed by use and tradition! If our schools are culpably bookish, it is because our teachers misuse the book and confound methods of teaching with the acquisition of knowledge. Given something to learn, whether contained in a book or not, it is the teacher's business to see that the learner approaches his task in such a way as to make his progress certain and the results secure. If motor expression will help ease the way or better define the end, the good teacher will surely use it. And one should know that reading, writing, and singing are as truly means of motor expression as drawing or dancing or handiwork. In so far, therefore, as the aim of learning is to acquire knowledge, there is no good reason for spending an hour in manipulation when the fact may be as well taught without it in a minute. On the other hand, the fact which calls for motor expression and the process which demands technical skill, may never be acquired in their completeness without persistent drill. But drill for the sake of technical skill is one thing; motor expression for the sake of clarifying, strengthening, and assimilating knowledge is another thing. To learn by doing is well enough, if there is no better way; to do, without learning from it, is to drop to the level of the brute, a travesty on pedagogical insight.

The significance of motor expression in the learning process came to consciousness in our schools only a generation ago; indeed, we are only now becoming alive to its place and possibilities. Some got the notion at first that there was a magical charm in the training of hand and eye. Manual training was heralded as the remedy for all defects of vision, mental and physical, and the claim was made that in whittling paper-knives out of wood the boy was really shaping his own character. To follow exactly the specifications of a blue-

print drawing was thought to be the surest way of bringing home the lessons of honesty, sobriety, and truthfulness. Until within ten years, manual training was defended by its overzealous advocates on the grounds of its value as a mental and moral discipline. It is difficult for us to see, even after the lapse of so few years, why so great worth was imputed to manual dexterity and so little value attached to good reading or legible writing or correct translation. It is past our comprehension even now how any one could have supposed that mere doing could rank in educational value with the doing of something worth while. The fact is, of course, that no one really thought, regardless of what may have been said, that making nothing and making something were one and the same. The early projects in manual training may seem to us trivial, but their value is not to be reckoned in terms of accomplishment, but rather in terms of effort. They represent an effort to secure at any cost the motor expression demanded by child nature. If the teacher of the humanities and the sciences would not employ it intelligently, here was a group of enthusiasts who would use it anyway, unintelligently if necessary. Public opinion, not always a safe pedagogical guide, supported them, and the result is a place in the curriculum for a subject which few know how to teach and which perhaps no one should teach in the way at first proposed.

In supporting the demand for manual training in the industrial and household arts, public opinion outran the educational theorists. Fathers and mothers care relatively little for formal discipline of any kind. They want tangible results. They want their children to be able to read, write, and reckon. Some go so far as to ask for an appreciation of good literature and the fine arts, and a working knowledge of history, civics, and the sciences, but such are always in the minority. The one thing that every parent wants, the one thing that gives him most anxious thought, is how best to make his child self-supporting. In manual training he sees a chance to develop that skill of hand required by the craftsman; in the technical processes he discovers a likeness to the processes with which he is acquainted in the home or in the industrial world. The

study promises material reward and he seizes the chance to turn it to account in the vocational training of his child.

Manual training in some form is here to stay. The teacher needs it in teaching not one subject, but most subjects; the public demands it because it offers the most obvious means of beginning the training for vocational life. Under the combined influence of pedagogical needs and public demands, the content of our manual training courses has been radically changed within the past decade. In the effort to give free expression to the child, all manner of projects have been carried out through hand work. Woolly sheep have sported with polar bears under fir trees set in a desert of sand. Bookbinding and block houses, Indian war bonnets and waterwheels, ink wells and Navajo blankets, bent iron jimcracks and raffia baskets, book shelves and dolls' clothes, broom holders and picture frames—all these and a thousand more mixt up in indescribable confusion! Is it any wonder that some one should raise the cry of fads and frills? The wonder is that any one should try to justify such work in school on any ground other than mere recreation. Absurd as it may seem when one reads over a list of manual projects actually put before our children in school, there has been consistent progress along two lines: (1) in the usableness of the completed article, and (2) in the design and artistic finish given to it. The difficulty of children's making really usable things contrasted with the ease of executing artistic design has largely changed the character of manual training within the past ten years. In fact, manual training today is little more than applied design. In this respect it is quite worth while. It is the best thing that has come into our schools in recent years, and we can not afford to lose it.

Manual training as applied design is a subject quite different from the sloyd and formal projects of twenty years ago. If manual discipline is no longer wanted for itself, one may ask why the term manual training should be retained. Why not combine with drawing and call it all "art" or "applied design"? Another question—Why should we have distinct courses in the household arts in the lower grades of the ele-

mentary schools? The work done in these lines is either applied design or training in the technic of housewifery. This consideration raises another question: What is the place of vocational training in the elementary school?

One characteristic of the American school system is apparently fixt. The work of the first six years of the elementary school is fundamental, the same for all regardless of sex or future occupation. Six years of schooling is the usual legal requirement, and there is a consensus of opinion that specialization should not begin before the twelfth or thirteenth year of age. Some would defer it two years or more, but the number of children leaving school at or before the end of the sixth grade warrants the attempt to make the work of the first six years of the elementary course complete in itself, and as comprehensive as possible. Such a course should be cultural in the best sense, a course calculated to put the child in possession of his inheritance as a human being and fit him to enter upon whatever work may be expected of him in the years immediately following. With six years of good fundamental training, the child is ready at thirteen or fourteen to look forward to his life work. The physiological age suggests differentiation for the sexes. For those who go to college, it is time to begin specialization along academic lines; for those who are to become artizans or farmers or tradesmen, as soon as possible, it is time to begin vocational training. Specialization at the age of twelve to fourteen years should begin gradually, and in the vocational lines it should be essentially preparatory to the later years of trade school or apprentice training. My point is that when the boy or girl hears the call of vocational life, specialization should begin and gradually narrow into technical training for specific occupations—for some at the age of twenty-five in professions; for others at the age of sixteen in the trades. Between these extremes will be found most vocations in which men and women engage. A fundamental course of six years, at once cultural and preparatory to the widest possible range of differentiated courses beginning with the seventh grade, is the chief desideratum of our American school system.

The present curriculum of our public schools, as I have already shown, is chiefly composed of humanistic and scientific subjects. We have made an attempt to introduce certain industrial and household arts, but they are so lacking in coherency as to raise serious doubts of their value as fundamental subjects. Nevertheless, there is another subject of instruction as fundamental as any now contained in the curriculum. If the humanistic studies are essential in the training of the child in his social relations, and the scientific in his relations to the physical world in which he lives, it is equally important that economic studies be included in the curriculum to provide instruction in the industries from which man gains his material possessions. Of course, I do not mean economic studies in the elementary school for the sake of technical training in any industry any more than I advocate the study of poetry in the grades for the training of the poet, or design for the artist, or biology for the physician. I mean the study of industries for the sake of a better perspective on man's achievements in controlling the production, distribution, and consumption of the things which constitute his material wealth. For these he labors his life long; on the use he makes of them depend much of his own happiness and the well-being of his fellows. It is only by means of such studies, whether pursued systematically in schools or picked up under the adverse conditions of after life, that we acquire the basis of judgment concerning the acts and aspirations of our fellow-men, either those who provide the capital for exploiting natural resources or those who do the work required in the several industrial pursuits. In our political life, no knowledge is of more consequence than that which is concerned with the relations of capital and labor; for us as a people there is nothing more to be desired than a sympathetic understanding of the conditions under which men earn their living. Is a liberal education possible in this age without a knowledge of these things which more than all others make men free or leave them slaves?

A threefold division of the curriculum—humanistic, scientific, industrial—has the advantage over the present twofold division not only in providing a more liberal education,

but also in affording a better preparation for the differentiated courses which begin in the grammar school. The training now given in language and literature, and in the arts and sciences of the elementary school, is of prime importance as a preparation for any course that a child may pursue later on; in some respects, no other training can approach it in practical worth even for the work of the lowest grade of trade school. Nevertheless, it is an assured fact that our boys and girls do not enter industrial life with the same confidence that they exhibit in other fields for which their academic training has fitted them. They see no fascination in industrial activity and they have no basis of judgment for choosing any particular career. The fault is largely due to avoidance of industrial instruction in the schools, as something degrading if not positively unclean, and the setting up in its place of unattainable ideals at variance with the actual conditions of society. I would not check the ambition of any American child, however high the goal—it is his birthright as an American citizen—but I would have the school help him define the aim of his life in terms of his own natural endowment and possible attainment. The child has a right to this kind of guidance; the school must give it, and what the school gives must be determined by sympathetic instruction along the lines leading to the goal.

The public, in giving support to manual training and the household arts, undoubtedly intends these subjects to promote closer relationship between the school and vocational life; some teachers of these subjects unquestionably do use them with precisely this intent; but efficient instruction presupposes something definite to teach and a consistent way of teaching it. Subtract from our present manual training course that which is essentially applied design and those exercises which are intended to afford motor expression in the learning of other subjects in the curriculum, and what is left is an incoherent, unorganized series of projects without purposes or educational value. However good the artistic treatment, and however desirable the assistance given in acquiring knowledge of other subjects, the results now obtained contrast most unfavorably

with what might be secured from a series of projects harmoniously organized to attain a specific end and at the same time incidentally to provide for the necessary motor expression and all needful application of artistic design. In other words, motor expression and art training may as well be secured as by-products in doing something worth while as by making them ends in themselves. Whatever value may attach to the subject-matter in such procedure is clear gain. The plan I propose, therefore, is intended to retain all that is of real worth in manual training and at the same time to get something still more to be desired. It is precisely the plan long followed by good teachers of reading and writing. The child in his reading may as well read the best of literature as the poorest, and in writing learn how to express himself clearly, concisely, and in good form as to follow everlastingly a copy-plate.

It may be interjected at this point that some teachers of manual training have used the subject as a means of introducing the child to the complexities of social life, that it has been a means of socializing him, that it has given him a chance to find himself in the midst of a highly artificial and conventional environment. If this be true, and the aim is certainly not an unworthy one, the end may as well be attained by putting the activities proposed on the high plane of real life.

The problem, then, is to organize the information within the industrial field in such a way as to make it valuable, first, in the education of the masses and, second, in technical training for specific vocations. There is no lack of information; what is knowable in any industry is beyond the reach of any one save the most expert specialist, and even he is tantalized by his inability to grasp all within his reach. That a field is large, overwhelmingly large, ought not to deter the educator from entering it. The scientific field, for example, is large, overwhelmingly large, but when it is systematically classified the teacher is in a position to select that which may have educational value even for the youngest child. Without classification it might be possible to teach much of practical value, but the school course from infancy to adult life would present a sorry spectacle. The logical arrangement of scientific in-

formation is the only criterion of the worth of the completed scientific course. The selection of materials for presentation at any particular stage depends upon pedagogical insight which takes into account both the goal to be reached and the peculiarities of the learner. The way in which children learn determines the method of approach to any subject, but it sets no standard of worth upon the acquisition. The only criterion of excellence is to be found within the subject itself in its relations to human needs. How the child learns that $2x2=4$ is a problem in psychology; whether $2x2$ is actually 4, what relations it bears to other mathematical facts, and whether it is worth learning at all, are problems reaching far beyond child-psychology. In classifying the information within a given field, we establish standards by which we judge the relative worth of component parts and discriminate between what is essential or characteristic, and what is accidental or accessory. Such categories we have in the humanities and the sciences, and they control the trend of instruction thruout the school course. We need such a guide to the industries in order that every step from the kindergarten on to the technical school may fit into our plan for industrial education.

Much confusion in the work of manual training has come from a failure to distinguish between the psychological guide to methods of teaching and organizing subject-matter, and the logical guide to the sequence of topics and the value of the component parts. The need of food, clothing, and shelter, for example, is easily brought home to a child. The psychical reaction to the suggestion that he satisfy these needs for himself is an excellent starting-point for the study of primitive life; it gives a splendid clue to ways of approaching certain fundamental industrial processes, and for that purpose may often be used advantageously in teaching. But to set up this principle as a guide for making courses of study is to confound means and ends. Everything worth having in this life has a place in the gratification of human wants—language and literature, science and fine arts, politics, law, and religion, no less than food, clothing, and shelter. What is suitable food, how it is produced, distributed, and prepared for eating, and what be-

comes of it in nutrition is a subject for study quite apart from the satisfaction of hunger. The need of sustaining life may make the study of great importance, but it suggests no classification of the knowledge abounding in the scientific and industrial processes. Likewise the need of speech for the interchange of ideas gives no clue to the systematic structure of language, to say nothing of the vocabulary and the grammatical characteristics of any particular language. The conclusion, therefore, is that the method of rediscovery of ways and means of satisfying human needs is no sufficient guide either to what children should learn or to the sequence of materials employed in instruction.

The industrial processes by which man acquires his material possessions and shapes them according to his desires, are directed to the transformation of natural resources. Raw materials are produced and worked over; they are distributed and put to use. Each step, if properly taken, adds to their value. What constitutes value and what means are employed to effect the change should be made the subject of instruction. True, the amount of human labor involved is immeasurable, the variety of human occupation almost inconceivable, and the range of productive activity wellnigh beyond our understanding, but the fundamental processes are limited and relatively simple in their operation.

For pedagogical purposes, the materials of most significance in the industries are (1) foods, (2) textiles, (3) woods, (4) metals, and (5) clays and other allied earth materials. Fuels, supplying great industries in themselves, occupy a middle ground between industrial materials and the motive power employed in the industrial arts. Commerce is that industry which uses the products of all other industries in making things available for human consumption. This classification has the advantage of fixing attention on the stuffs out of which things are made and upon which human ingenuity brings to bear its most lavish expenditure of industrial effort. The next step is to single out the dominant processes in the successive stages of production, manufacture, and distribution, and their interrelations, peculiar to each class of materials. The facts concern-

ing these processes constitute the subject-matter of instruction in the industries. The technical skill required in the operation of any industrial process is the object of vocational training.

A well organized course of study in the industries must be the joint work of technical and pedagogical experts. The scientist will be called upon to contribute his share, and his contribution will be no inconsiderable amount. At one stage of the course emphasis may be placed upon the processes of production; at another stage the stress may be upon manufacture, distribution, or consumption. Nature study, agriculture, the fisheries, forestry, and mining will furnish indispensable information. Geography, biology, physics, and chemistry will each add their quota of knowledge. Facilities for transportation, the production and transmission of power, and the agencies of trade and commerce will have a bearing on the problem. But the chief consideration in the course of study is the ordering of the industrial processes by which raw materials are transformed into things of greater value for the satisfaction of human needs.

The simplest industrial processes are often the most primitive. This fact suggests the desirability of sometimes approaching the study in the primary classes from the historical standpoint. To make the study of primitive life, however, the dominant purpose of instruction leads to the introduction of much superfluous material which tends to crowd the curriculum and overburden the child. Wherever the approach can be made advantageously by way of primitive life or by plays and games which express children's emotions, that method may be employed. The impetus gained in this way should be directed to the apprehension of the systematic knowledge contained in the field under consideration. When textile processes, for example, are to be studied, the need of clothing may be emphasized and means suggested for gratifying the want. Projects for carding, spinning, and weaving may be carried out in simple ways and illustrated by reference to actual operations in bygone times or by the practises of contemporaneous primitive people. But to rediscover every step in the original development of these arts is to miss the pur-

pose of industrial education; it may be good industrial history, but it is not good industrial training. The industrial aspects of the study, as distinguished from the historical, require that the child should acquire in some way and at some time—presumably in many ways and at widely separated times—a fairly well-rounded conception of textile processes and become familiar with the most important types of textile products. It is not enough to acquire a knowledge of the primitive process of spinning, even spinning on a wheel, and then to pass on to the weaving of a simple rug. Spinning is an important industry in modern life; it means yarns for all manner of fabrics made from a great variety of raw materials; it means thread of all kinds; it means cordage. How many of our school children, how many adults, have any adequate conception of the extent of these industries or their bearing on everyday life? And yet the processes are simple, and, by actual demonstration, supplemented by illustrations cut from current magazines or by visits to neighboring factories, the lesson can be taught in such a way as to make the learning a delight and the knowledge a permanent possession. On leaving the elementary school, every child should know, it seems to me, the characteristics of cotton, wool, silk, and linen, both in the spun and woven forms, and have some notion of their value as determined by the processes to which they have been subjected. A proper combination of handwork, the application of design and the giving of information should produce the desired results without strain and with constantly increasing interest in the study. At the end of a high school course, possibly at the end of the grammar school, a girl should be able not only to make many articles of clothing, but also to discriminate in the choice of fabrics by reference to what she has learned in school concerning the nature of the several materials and the processes of manufacture. If she doesn't get this knowledge in school, when and where will she ever get it? And isn't it something which she has a right to know? How much time will it take, I ask, to give her a vastly better equipment in this field than ninety per cent. of adults have today? It is less a problem of instruction or school administration, than it is a point of

view and selection of materials for instruction. Once accept my proposition that this is worth doing, and the time can easily be found, and some day we shall have teachers prepared to do the work.

Again, let me illustrate from another field—from the clay industries. Children like to make mud pies. The kindergarten turns this aptitude to good use in fashioning things by hand molding. Of late, primary teachers have adopted clay as a convenient medium for expressing art forms. The result is thirty plaques, thirty ink wells, or thirty vases—all very pretty, decorated and glazed, when put in a row on exhibition day. So far I have no criticism. My complaint is that they stop right there. The chief processes in the clay industries are very few; hand molding, turning on the potter's wheel, pressing into set forms, and building up in permanent shape, as in cement and concrete construction. Why not, then, pass from hand molding, which can be approached thru primitive types, to the use of the potter's wheel? A single demonstration of this machine, with the use of illustrations which may be had in abundance, will give the clue to the entire round of the pottery industries. A few samples, varying from unglazed earthenware to fine china, will complete the teaching equipment. Next come brick and terra-cotta. But who has ever heard of brick-making in school? I should like to hear of it because it is an immense industry, the products of which are visible on every hand—soft brick, hard brick, fire brick, red brick, yellow brick, ornamental brick, terra cotta. Why should not our children know more about these things than we do? I venture to say that ten hours of instruction judiciously spread over two or three years, and properly correlated with nature study and geography, will give to sixth grade children a better appreciation of one of the staple building materials than ninety out of every hundred adults have today. Is it worth the time? If so, the time can be found.

I might illustrate my point by any of the staple foods, by glass, by woods, or by metals. The working up of these materials, the getting them ready for use, does not involve many processes. The combination of processes is most intricate

and the variety of products simply indescribable, but with an eye single to typical ways by which raw materials are transformed it is not impossible to leave with twelve-year-old children a lasting impression of the modes of operation in any industry and the nature of the most important results.

I am well aware that this plan will be criticized by some as being retrogressive, a return to a logical control of childish activities, and by others as abandonment of the new education through motor training. It may mean revolution, but if it results in a richer and more unified curriculum one critic is answered, and if the curriculum is thereby simplified the other critic will get no hearing from the American public. But how is the curriculum strengthened? First, it must be conceded that the content of industrial education, as I have defined it, has some value; whatever that may amount to is a distinct gain. In the second place, the plan calls for richer courses in arithmetic, nature study, and geography. The quantitative measurements of arithmetic will find concrete application in every step of the industrial process from the first step of production of the raw materials to the end of the series when goods are turned to practical use. How much, how many times, how often, in what proportion, at what cost, are questions which must be answered by the child at every turn. The computations called for in the manufacture, transportation, and final distribution of any commodity are in daily use in trade and commerce, and should be the staple requirement of the school. Nothing will vitalize the study of arithmetic more than to create in the school a *need* for quantitative measurement and for the employment of business methods in business affairs. Such a situation suggests clearly the place and scope of commercial training in the upper grades or high school for those who are in training for commercial vocations. The natural distribution of metals, fuels, clays, and other earth materials, the climatic and physiographic conditions which determine the location, amount, character, and availability of our flora and fauna, the factors which control transportation by land and water—these are problems in geography which become concrete and vital in the study of industries. The

correlations are so obvious that only a stupid teacher can miss them. In nature study we shall find a real place for the elements of agriculture and forestry; no longer aimless meandering in any scientific field, but definite attention to those occupations concerned with the production of materials good for food, clothing, and shelter, the conditions calculated to give best results, and the resistance which men meet in doing their work. The growing of any crop, even in a window garden, will epitomize the farmer's labors in tilling the soil, supplying plant food, utilizing light, heat, and air, overcoming disease and insect pests, and reaping his harvest. Every step takes on new meaning when the learner sees its place in the series of operations culminating in the commercial food supply of his own community, its sanitary regulation and domestic consumption. The elements of physiology and hygiene, and of physics and chemistry, are also called into requisition; they are all indispensable in fixing values of industrial products and determining economy in technical operation. What makes for hygienic living is as well worth knowing from the economic standpoint as what mechanical appliance will most increase the output. A proper study of the industries, therefore, I contend, will bring about a unified and closely correlated course in the biological and physical sciences by way of supplying the information wanted by the child in adjusting himself to the real world.

Perhaps some timorous soul will interpret my outline of the pedagogical relations between the sciences and the industries as a denial of any independence to arithmetic, nature study, and geography. Far from it. The scientific subjects have a function of their own in the curriculum, as do the humanities and the industries. The use of language and the arts of reading and writing in studying the industries, even the generous use of supplementary readings giving industrial information, does not preclude the study of literature in progressively systematic form. The course of study in every subject may have two aspects, one peculiar to itself by virtue of which we recognize it as a distinct subject, the other relative to other subjects which the child may be learning. In arithmetic, that which is

peculiarly mathematical looks forward to the systematic development of the science of mathematics, and it is possible so to emphasize this aspect as to make the study almost exclusively formal. The natural sciences may be so taught as to have no direct bearing on the child's experience. My thought is that any subject worthy of a place in the school curriculum should be developed along systematic lines characteristic of the subject itself by means which function in the child's experience with other subjects of information. This is only another way of saying that whatever is learned should be applied in practise. Perhaps better said, it is the harmonious interaction of all subjects in the curriculum which gives zest to study, solidarity in the knowledge acquired, and efficiency in converting knowledge into power. The reason for this is that the learning process is a unity; the child's experience in gathering information from many sources is unified, and it is his own; his instincts, impulses, and all his activities belong to him alone, and however segregated the ultimate ends of his endeavor may be in the mind of his teacher, he weaves all his experiences into the fabric of his own life. Whether or no that fabric be technically correct depends upon the systematic ordering of his experiences; its serviceableness for any particular purpose depends upon the materials which have entered into it.

One other important question awaits an answer. Will the plan I have proposed tend to simplify the curriculum? My answer is that at least four subjects will be combined into one, and in some elementary schools one teacher will take the place of four. Manual training, fine arts, domestic art, and domestic science will drop out below the seventh grade, and in their place we shall have the one subject of industrial arts, the elements of industries. The term "manual training," if used at all, will cover the forms of motor expression employed in teaching reading, writing, and drawing, as well as the manual exercises used in agriculture or weaving or pottery making or carpentry. There will be no hours set apart in the school program for work *exclusively* with the hands, and teachers will not be expected to provide manual occupations for every minute of the time assigned to any subject. When manual work

is needed it will be demanded as insistently and employed as successfully in the humanities and the sciences as in the industries. In the lower school, manual exercises will be used as a means of self-expression, a method of teaching rather than a subject of instruction or a way of acquiring technical skill. That is, cooking in the lower school is to enable the child to know what happens when heat is applied to foods, and in what respects foods thereby are made more serviceable; cooking as an art in which a girl should excel belongs to a later period when she is fitting herself for housekeeping. Technical skill is a distinct aim in vocational training, but in the earlier years of school the purpose is general rather than specific, cultural rather than vocational.

In all industrial processes, wherever man transforms materials into things of greater value, he employs a technic peculiar to the situation, and gives to the product a touch which pleases his esthetic sense. Earthen bowls might be made, I suppose, without appreciable artistic merit, but the fact is, that the crudest pottery shows an effort to attain some ideal standard. This striving for artistic effect is as instinctive in childhood as in primitive man, and no worker ever loses it until he loses all pride in his handiwork. It is the source of every fine art. It is self-expression, which is at its best when bodied forth in doing things worth doing well. The teacher of art, therefore, finds his best opportunity in that field which offers greatest inducement to constructive design. The art training which belongs in the elementary school is that training which makes for a better appreciation of esthetic standards and which finds expression in making things more pleasing than they otherwise would be. It adds no burden to the curriculum; on the contrary, it enlivens it and makes its tasks more pleasurable because more gratifying to personal wants.

A systematic course in the industries will have the additional advantage of making it easier to teach everything else in the curriculum. Not only will the study of industrial processes give rise to concrete problems in mathematics and the natural sciences, but the practical character of such problems will incite children to find the surest and most business-like way of solving them. Time will be saved for drill in every

other line. With fewer subjects and more practical problems, I should confidently expect better results in the three Rs and a more thoro discipline resulting from work in every subject. There would be no attempt to cover the whole field of human effort; the standard set in the study of industries whereby only the essential processes should be included in the course of study would react upon the courses of study in the humanities and the sciences. Let it be agreed that only fundamentals have a place in the elementary curriculum, and it will be comparatively easy to insist upon thoro work. Under such conditions there can be no excuse for not getting it. Those who believe, as I do, in the educational value of work well done, will join hands right here with those who advocate a curriculum which imposes tasks worth doing well.

My conclusion is that industrial education is essential to the social and political well-being of a democracy. It is the privilege of all, rather than the duty of a few, to be informed on matters affecting the social welfare of the body politic. A knowledge of how men get a living, the nature of their work, and the value of it, is a prerequisite to intelligent appreciation of the dignity of labor. A sympathetic understanding of the conditions underlying industrial competition will make for civil order and social stability. Training for citizenship may not safely disregard the dominant interests of the great majority of citizens. The public school must teach that which all should know. If only six years can be had for this work, the work must be done in six years. There is no alternative. It must be done in such a way, too, that children will grasp its significance and carry its impressions thruout their lives. It must establish such habits of thought and conduct that all subsequent work will be aided by the discipline. This is the ideal of the elementary school. Joined with the humanities and the sciences, a study of the industries rounds out the education of the citizen and equips him to begin his vocational training. On the threshold of active life it puts him on a par with his fellows. It assures him that kind of equality which is the opportunity of every American.

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II

HIGHER EDUCATION AND THE FARM

How may higher institutions of learning train for farm life rather than away from it? In order to deal intelligently with this question it is necessary to secure direct information from original sources. The following questionnaire was addrest to fifty students, equally distributed among the four academic classes at the University of North Dakota:

(1) Why did you leave the farm?
(2) Do you expect to engage in farming after completing your university course? Why?
(3) What conditions in farm life should be improved in order to make the occupation attractive to you? How?
(4) How can the university aid in training students of initiative for farm life?

Essentially the same questions were submitted to several educated and progressive farmers, to the heads of the various higher institutions of learning in North Dakota, to the United States Secretary of Agriculture, Mr. Wilson, and to the Chairman of the National Committee on Country Life, Mr. Bailey.

The answers to the first question, "Why did you leave the farm?" are very effective denials of the implied indictment that higher institutions of learning are training away from farm life. The reasons assigned for leaving the farm indicated a well established purpose on the part of each respondent to leave the farm for all time when he or she entered the University. In the light of such evidence the indictment is proven false, and the interrogation, "How may higher institutions of learning train for farm life?" may be given exclusive attention.

An examination of the answers returned furnishes interesting information regarding the actual conditions existing on

the farms in North Dakota. An actual statement of conditions is not made, in every case, but the declaration of ideals entertained by the students coming from the farms leads to a clearer conception of the conditions existing in their rural homes than might be gained from their statement of facts which they would willingly discuss. The following answers to the question "Why did you leave the farm?" are given in the order of their numerical importance:—

To obtain an education.
To secure greater financial returns.
To seek a higher and more honorable profession.
To move among cultured men.
To become honored and respected.
Because farming offers no future to an educated man.
Because farming offers no prospect for fame.
To escape drudgery.
To enjoy social life.
Because parents moved to town.
Because father wants his son to be a professional man and not follow the humdrum life of the farmer.
Because two thirds of the year there is practically nothing to do.
Because land is being robbed and overrun with weeds.
Because I wish to secure more liberty and enjoyment.
Because farm life offers no regular income.
Because I prefer mental to physical labor.
Because farm life lacks amusement and is too quiet.

Subsequent to taking this census of students in North Dakota it was learned that Professor Bailey of Cornell had taken a similar but larger census at Cornell University. He received replies from 155 students. He placed their answers in four groups:

First, those who were influenced by financial reward.
Second, those who left the farm because of the burdens of physical labor.
Third, those who wished to improve social and intellectual ideals.
Fourth, those who were handicapped in miscellaneous ways.

A comparison of the answers from the students in the University of North Dakota and Cornell University leads to the conclusion that the eastern and western students were influenced practically by the same motives, and had been led

to the same definite determination to abandon the farm before they had come under the actual influence of the institution which they entered.

The answers to the second question, "Do you expect to return to the farm after you have completed the University course? Why?" elicited two sets of answers. The answers are given in the order of their numerical importance, though several of the latter reasons are assigned by a single respondent. Group one, those who do not expect to return to the farm:

Specialized for other work.
Not attractive, especially for a girl.
Prefer mental to physical work.
Farming does not pay enough money.
Farming is too prosy. It lacks amusement and opportunities for social life.
Social standards in rural communities are inferior to those of town.
Farmers have no opportunity to travel.
Extreme hard work and uncongenial neighbors.
Farming is too humble a profession.
Education is regarded as a menace to a good farmer.
Educated people do not live on the farm.
Ashamed to go back to farming and settle down as a farmer.
Because education in higher institutions of learning does not fit for farm life.

Group two, those who expect to return to the farm:

Life on the farm is sane, moderate, healthful, varied, and reasonably remunerative.
More freedom and the trained mind is offered a field of wider interest than in the city.
Because farming requires brains and education.
Business too intense in the city.
Physical conditions more satisfactory on the farm than in town.
Farmers are usually reasonably successful financially, whereas the majority of business men fail.
University education has given entirely different and higher ideals of farming than those possest when I entered the university.

As might be expected from any company of witnesses, the two groups of answers cited furnish some rather striking contradictions. One of the most interesting facts developed is that showing that higher education in an institution, with no agricultural college in its organization, exercises a positive in-

fluence in creating ideals *favorable* to the return of educated men and women to farm life.

The answers to the third question, "What conditions in farm life should be improved in order to make the occupation attractive to you? How?" received the following replies:

Good roads should be built thru the country.
General telephone connections should be established.
Rural mail routes extended and parcels post system inaugurated.
Rural schools should be improved.
More attention given to the social and religious life.
Higher grade of labor should be secured.
Farming should be made more profitable.
Drudgery should be reduced by the use of more machinery.
Farming should be intensified and diversified.
Farm buildings should be improved and made more artistic.
Standards of life should be changed so that everything would not be measured in grain and cattle.
Shorter hours for labor with the hands and longer hours for work with the brain.

The fourth question "How can the university aid in training students of initiative for farm life?" received the following answers:

Offer a good cultural as well as practical education.
Use every means to develop character.
Endeavor to uplift and dignify the ideals of farm life by means of convocation addresses, classroom work, and general lectures.
Offer courses in manual training, and teach students to work with the hands as well as with the brain.
Join the Agricultural College with the University on the same campus and let each work for the other.
Offer courses in chemistry and physics of the soil, applied courses in zoology, botany, geology, and engineering.
Offer courses in business management of the farm, in economics of production, and in beautification of rural homes, grounds, etc.

Answers from the heads of institutions of learning in North Dakota, and from farmers and others, with whom correspondence was had, closely agreed with responses received from the student body. The consensus of opinion might be summarized in the following manner: There is much that is faulty in rural conditions, notably uncongenial surroundings, lack of social and religious educational advantages, a general apathy among many farmers in regard to improving local con-

ditions; and there is a common ambition to move toward and mingle with the more active urban life. The search for the underlying cause of these difficulties leads to the conclusion that there are two primary difficulties at the source of this sociological problem. Ideals concerning farm life, as well as unfavorable conditions, must be changed if there is to be any considerable decrease in the drift from country to town. We may deprecate the low ideals of farm life, entertained by so-called people of culture and refinement, but they do not have as injurious an effect in driving young people away from the farm as do the low, undignified ideals possest by many farmers themselves. Undoubtedly much may be done by creating proper ideals in the minds of those who have left the farm, but the institutions of learning must get nearer the "load," which is anchored in the farm homes. Much energy will be economized in the endeavor to train for farm life when educators grasp the idea that adults are in greater need, even, than the children of acquiring correct ideals. Unquestionably it is because of the low, impoverished, and undignified ideals obtaining in so many rural homes that the youth grown, not reared, in the country, trek toward the congested centers of society.

Mr. S. A. Knapp, director of the Farmers' Cooperative Demonstration Division of the Department of Agriculture, from observation and experience speaks as follows:

"The teaching of ideals on the farms, in the workshops, and in the homes of toil is the most valuable and significant of all the varied lines of educational work because it has in the past been most neglected. It is the most valuable because the lessons are immediately practicable and become at once an investment for human betterment; while much of the teaching of youth is lost by indirection or lack of application. Its value is enhanced because it goes directly to the improvement of home conditions which generally largely fix the character of adult society and mold the rising generation . . . It will be difficult, if not impossible, to fix as national characteristics those high standards of excellence worthy of a great people, unless education and training be taken to the adult

population as well as to the youth. However excellent and complete may be the instruction of youth in the schools, parental authority and home environment, if of a lower level, will ultimately determine the standards of the future. The education of the adult should keep step with that for children and youth so that there may be the material prosperity and intellectual growth coordinate with developing childhood under the guidance of a wise instructor to the end that the natural leadership of the parent may continue unbroken."

Manifestly the higher institutions of learning can perform this service of reaching the adults directly thru one avenue only and that is thru correspondence and University extension work, one of the greatest, if not the greatest arm of any institution of learning. It is a work which would justify liberal appropriations by both State and Federal governments. That the organization and training of a large army of extension workers would carry the results and the inspiration of culture and modern scientific findings to the homes of millions of farmers is no empty dream. In the desolate rural homes of millions of American farmers are "lonely women, untrained or mistrained children, and dull, plodding men." For such as these the extension workers must be multiplied until the call to the higher life is brought to the very thresholds of thousands of American farmers' homes.

A boasted motto of our land is "the common school, the hope of our country." By reason of its intimate relation to the home life of the community it is very close to the "load" and may be used more effectively than in the past for establishing correct and high ideals of rural life, and pointing the way to the correction of many unfortunate rural conditions. To perform this function adequately it will be necessary that teachers in the elementary schools be trained in elementary agriculture, domestic science, and manual training. Obviously this is the great sphere of normal schools, and any other schools whose efforts are given to training teachers for service in the elementary schools. This may be classed as indirect effort on the part of the higher institutions of learning to solve the problem of training for farm life.

Another point of indirect attack will be thru cooperation with high schools, high schools that are now established or agricultural high schools such as are contemplated in the Davis bill. The relationship of such schools is clearly indicated in the following words from President Roosevelt: "It is not my place to speak of the details of such a bill as the Davis bill, but in a general way I feel that the nation should be making appropriations, put a premium upon industrial, and especially agricultural, training in the State schools; the States themselves being required in these schools to contribute what is necessary in the ordinary training, and the expenditures for the National Government to be under the supervision of the Department of Agriculture.

"Teachers must be trained, or their teaching will not be adequate, and these teachers must then give vocational training to the scholars in the ordinary schools. The nation would simply cooperate with the State or city or town, and what it thus gives would be applied to industrial, technical, and agricultural trainings.

"We have to deal now and we will have to deal in the future with a nation of families on the land, and our system of public education should be so broadened in its scope as to include not merely the traditional cultural studies, excellent and indispensable in their way, but also instructions relative to the farm, the trades, and the home."

To fulfil their proper functions these high schools will require large numbers of well equipped teachers of advanced agriculture, domestic science, and manual training. The preparation of such teachers should be as thoro and extensive as that of engineers, lawyers, and physicians. The demand for teachers thus prepared will far surpass at an early date the supply afforded by agricultural colleges, and there is every reason, therefore, why every teachers' college in the United States should offer thoro and extensive courses in these subjects.

The departments of engineering and botany may be used to indicate two of the many other avenues of indirect attack suggested by respondents to the question "How can our uni-

versities aid in training students of initiative for farm life?" The scarcity of skilled labor on the farms, together with the abnormally high prices demanded by inefficient laborers, is sure to have one beneficent effect. It will require the farmer to make larger use of machinery and thus enable one man to perform the work of several. This implies that the farmer and the mechanic will be closely related, so much so that every successful farmer must necessarily have his blacksmith shop and his tools for repairing farm machinery under his own management. The day is not far distant when the milking machine, the gasoline engine, and allied appliances will minimize the drudgery both in and out of doors, and thus relieve the farmer of many of the most disagreeable features of rural life. In this connection higher institutions of learning will find favorable opportunity for giving courses in shop work, machine construction and operation, directly related to agricultural as well as engineering demands.

Mr. Burbank has made many notable contributions to our generation, but perhaps we are most indebted to him, not for his seedless plums, shell-less walnuts, and spineless cactuses, but rather for the great lesson which he has taught us in breeding plants. One of the most classical experiments based upon principles followed by Burbank, is the development of new breeds of corn by the Illinois Experimental Station. Another is the notable work of Professor Hansen of the Agricultural College of South Dakota, who has made remarkable advance in the breeding of plants which will endure the rigors of the severe northern climate. These lessons in plant selection and breeding appeal directly to the progressive farmer everywhere. The higher institutions of learning, thru their experimental studies with plants, should be able to make helpful contributions to the training of those who have inclinations toward the farm.

In the study of prairie conditions, higher institutions of learning should become powerful agents in creating a sentiment for groves and forests, giving thoro and practical courses in the study of trees, and demonstrating thru their own home-grown groves what may be done along the roadsides and on every

quarter-section of land. When actual work in selecting and cultivating trees, which may yield net returns of five to twenty dollars per acre, on a twenty-year investment, is carried on by higher institutions of learning opportunity will be afforded teachers to gain a practical acquaintance with tree culture. With people thus prepared Arbor Day will become an institution whose monument in America will be something beside dried-up toothpicks, which are the only suggestions of tree culture on the grounds of many rural schools.

It is believed thru these three agencies, University extension, preparation of teachers for elementary schools, preparation of teachers for secondary schools, the higher institutions of learning may aid in training for a true life on the farm. This training, it must be remembered, will be directed toward the development of proper ideals respecting country life, and toward the improvement of unfavorable conditions, which absolutely prevent rural progress in many communities at present.

Viewed from almost any angle, this subject is one of colossal proportions. There is no business in all the world that is so important as agriculture. There is none that begins to compare with this in the amount of invested capital, about thirty billions of dollars in the United States. None which can compare with it in total production of wealth, which was about seven and one-half billions of dollars in 1908. There is no business which is so hampered by traditions and weighted by such an army of ignorant employees. The problem is further complicated by the fact that over thirty-five per cent. of the farmers in the United States in 1900 were tenants. This means much careless and indifferent farming, and consequently more drifting away from the farm to city life on the part of the boys and girls, who feel that they can sell their services for higher wages. In the light of these statistics, there is a great field for the economist and the sociologist who may develop sane and wise economics of consumption of farm resources. If these departments in our higher institutions of learning can devise systems of taxation and systems of credit, which will relieve the toiler on the farm from the

burdens of taxation on the one hand, and the high rates of interest on the other, they will make a great contribution to the training for farm life.

It should be understood that this discussion is not a plea for converting higher institutions of learning into agricultural colleges. It is a simple effort to show how higher institutions of learning may make use of their present equipment for benefiting a class of citizens who contribute largely to the maintenance of every State institution. It is a frank acknowledgment that one of the most difficult questions in education has been long neglected by America's higher institutions of learning. The intention has been to point out facts concerning some of the unfavorable and some of the favorable factors of rural life; and at the same time show how we might get nearer the "load" thru the agency of extension work, and preparation of teachers, who may carry inspiration and knowledge of rural affairs into successful teaching in the elementary and high schools; and also how the departments of economics, engineering, sociology, biology, and others may be utilized for practical service in agricultural as well as in other technical activities. When the farm and the school become thus allied, we feel that the question of this paper will have been successfully answered. Under this alliance we should realize a social and economic condition in the rural community which would approach the Utopian. Then we should see fulfilled the prophecy of one of my respondents, "the farmer will become greater than his vocation, and farm life will be attractive to the best class of citizens." Nevertheless, then, as now, young people of initiative will leave the farm occasionally, as they now leave every profession and activity, for service in other spheres of life. But they will sacrifice much in so doing, because they will leave sanitary, architecturally constructed homes of culture, surrounded by the quiet of country life.

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III

THE DIVIDING LINE BETWEEN SECONDARY AND ELEMENTARY SCHOOLS [1]

Historically the school has grown out of many needs that society has felt, but probably two of these have been especially important factors. One is the necessity felt by any social group to protect itself against innovators in order that it may preserve the treasures which have come to it from the success due to social organization. War, a protective tariff, restriction of immigration, and a host of other means have been used more or less effectively to accomplish this end. But very early it was found that one class of innovators required especial care in order to prevent its making serious inroads upon what were presumably valuable customs. The innovators of this class were the children born into a group. They have had a great influence in modifying language and other social institutions, and the means used to train them to uniformity, and thereby gain security, has been the school.

On the other hand as man, thru organization, secured a certain amount of leisure and surplus, he felt called upon to invest this, and investment involves some degree of risk. To look after these investments of the margin of life a professional class arose which called for special training and another form of school came into existence.

It is not wise to press this abstraction of factors too far but, in a general way, from these two situations we have derived our elementary and secondary forms of schooling. In so far as the privileged classes have considered that children require a period of restraint before entering into the freedom of life, based on derived material, certain elements

[1] Paper read before the Round Table of Southwestern Michigan at Grand Rapids, March 12, 1909.

of elementary education have been used by them. In so far as the democratic movement has brought the common people to a share in social accumulations and savings, elementary education has been extended, in many cases very artificially, into the secondary field.

In the older countries this division of the school has been and is a matter of social classes. It was found that the professional class must be recruited from the industrial, and provision was made of opportunities for abler boys from the working class to have secondary and higher schooling, but this meant their adoption into the higher class. To a great extent our schools and social settlements in America now serve as recruiting stations, by means of which we pick out bright students to "go on farther" in school in order to enter the social groups which have already become professionalized. In Germany today the Emperor's interest in continuation schools seems to be largely based upon what seems to him to be a necessity in continuing state control over the working people until they have past the period of plasticity, and by means of industrial and military education have been conformed to existing conditions sufficiently to save them from following those to him apostles of discontent and innovation, the Social Democrats.

In America, in so far as this stratification exists, the secondary school for persons of privilege is a private institution, but in many sections the dualism upon this basis is increasing. In general, the private school is an accompaniment of increased financial resources.

In the schools of our municipalities, circumstances have led to a bringing together into one institution these two divergent forms of the school. Our emphasis upon industrial needs and our lack of surplus has given the priority to the elementary type, and gradually from this has grown a secondary form, the high school, which has replaced to a great extent the old grammar school and academy, which were frankly taken from European models. As a result we have had a secondary school of shorter term and more practical working than have been those developed more independently of the needs of so large

a proportion of society. The placing of the support of this division of the school directly upon all the people (for indirectly it has always been there and consequently with the people's consent) has been well established, notably in the Kalamazoo high school case. The fact of this consent, however much contested, marks the extent to which an increasing proportion of the vocations and occupations have become professionalized and consequently freed from some of the limitations of that state in which they were before they developed a professional function. This is not the place to attempt to state the forces which are bringing this about, but no adequate discussion will fail to include the results of such physical and social machines as engines, dynamos, corporations, labor unions, etc., by means of which power has been controlled and utilized as never before.

The industrial education controversies of the present day illustrate fairly well the push and pull of the two factors which I have attempted to emphasize. The classes of greater privilege are urging insistence upon the elementary form for the workers, while the organizations which represent the less privileged oppose any shortening of the period of participation in that secondary schooling which initiates its members into a life of progress and advancement.

The call for the enrichment of the grammar school course, which has now taken form in the plan for a six-year high school, is a natural outgrowth of democratic tendencies, and should be interpreted in relation to them. We no longer hold to slavery as a necessary foundation for the leisure so important to Aristotle. Our social organization has changed sufficiently the ratio between subsistence, production, and consumption as to make the old basis indefensible. The problem today is to what extent has society gained control of the situation, and what degree of participation can be claimed by all classes?

I believe that progress lies in the increasing professionalization of all classes of workers and that our American school is the most promising type, because it permits a greater adaptation to the needs that arise with this advance. After

a somewhat careful study of the various forms of the school found in Germany, I was asked by a German to state my feeling regarding the situation in the two countries. I said that, in continuation schools, Germany excels, just as America has the advantage in its elementary schools. The reason in both cases is the same—the better type includes an interaction of the two ideals. The German Fortbildungsschule, better than any other, prepares for existing and changing conditions, and in its best development points the way to responsibility for making changes. The American elementary school more than any other recognizes growth and progress, as well as adaptation on the part of children. When it comes to the secondary division, evaluation must depend upon the growth of the next few years. The German has the advantage of better habits—the American of less necessary waste in change, for he has less to lose.

Assuming that the task of America in the present generation is to reconstruct its system so as to better adjust the balance between the two factors which must be taken into account, it would seem that we must have, in a democratic community, an organization which does not segregate or stratify. We can not hope to have men choose for their children a life of less privilege as long as there is a chance for them in what are accounted higher classes. Yet there has been an extension of the area of privilege, and we can hope, in time, for still wider ranges of occupations, from which choice can be made, and entrance into which does not debar the worker from growth and advancement.

To meet these needs we require a school system which furnishes to the various ages such situations as will bring about a freeing of the energy which the individual has stored up in the coordinations which we call instincts and habits. Just so far as society can afford to do so, and see its way to bring it about, we desire to have our young people rise to higher planes of development, at the same time organizing and freeing more occupations, so that there will be a wider range of choice.

This will necessitate a greater variety of secondary school

courses, including all desirable forms of adjustment between preparation for the present, and keeping open for future growth. The conditions call for trade instruction and for preparation for college. Our mistake will be in segregating the types and thus contributing to undesirable class stratification. Our progress lies in giving to each individual the best balance possible under existing circumstances, in meeting both his needs of today and his growth for tomorrow. Each person will have these adjusted in a different ratio from that of others—what will be the major of one will be another's minor, but the school can not afford to forget that each student has both needs.

This will require courses of various lengths. At present some will not continue beyond fourteen, but our most advanced States will soon transcend that requirement in at least part time schooling. We must find means by which the boy and girl in the adolescent period will not be shut off from production entirely in order to give his allegiance to the school. It will not be easy but it will be profitable to have courses in city schools which close their full-time requirements at fourteen, fifteen, sixteen, and on up to twenty.

The movement, on the whole, has been toward greater unity in our entire school system, and each advance accomplished makes others easier to bring about. For administrative purposes we have continued, long beyond any justification for it, the division upon the basis of four years. The result has been an elementary school of six grades and a high school of four grades, with a *terra incognita* in between, attached to the former. We have recognized, more or less vaguely, that, with the seventh grade, a new range of problems opens up. It is a hard year. In some cities the seventh and eighth grades call for special teachers at large salaries. Our loose and careless grading has established a sliding scale which often obscures the real differences, but the teacher who is called upon to meet the needs of "old" and "young" seventh graders at the same time deserves our sympathy.

Physical and psychical development proceeds in rhythmical form, the beat is one, two, three; one, two, three; one, two,

three. Just as we eat a meal and then digest and assimilate it, so children grow rapidly for a time and then stop to gain control over their accumulations. From the ages of one to six there is a period in which interests, activities, and virtues are very different from what they are from seven to twelve. The age of eleven is an important halting place. The tremendous increase of growth after six has been followed by a time of hesitancy and uncertainty, which settles down into a most astonishing assimilation of a wide range of material. At eleven, boys and girls, bright and dull, are more nearly alike than at any other time. It seems to be Nature's rendezvous for evening up accounts of all kinds before the new life begins after twelve. The stage from one to six has a major in the home; from six to twelve, the school comes in as an important secondary factor. I do not believe in sharp demarcations but, generally speaking, these periods have their distinctive features.

No less is this the case with the third period, beginning about thirteen, when I believe that the two institutions, home and school, no longer suffice but require the cooperation of civil and industrial society. The parent and the teacher are no longer sufficient. Their work is none the less essential, but at the best it is not adequate unless reenforced by a representative of the larger world. We had him in the past in the master to whom the boy was apprenticed, but this was done at the sacrifice of the work of the parent and teacher. We have tried to reinstate him, with only partial success, in the manual training teacher, the athletic coach, the social secretary, etc. Our failure has been in not recognizing the function that is needed and meeting it consciously and rationally.

In a recent letter, an able critic of one of our educators said to me, " I agree that the failure was due to administrative difficulties, but are not all our failures due to administrative difficulties? " The division of the school at the beginning of the adolescent period, rather than a little later, is a matter of administration, but it is one of the adjustments which will aid our school machinery to greater effectiveness. The particular subject-matter at this age is not so important as the

type of situations organized. The entire curriculum needs enrichment and reconstruction, the departmental organization has a place in the lower school, the class teacher has a function in the high school as well as below, shops and laboratories are not useful in higher classes alone, but all these aids are rendered effective to the extent that we pay attention to the stage of development the boys and girls have reached.

It is not a device for bringing the burden of college entrance upon younger shoulders, nor even for bringing Latin and algebra into school rations at an earlier age. Yet even the present formal course presented in some high schools will be somewhat more rational when a longer swing is taken, and we shall find that normal children, whom we still smother in applications of percentage, will respond much better to the higher mathematics which their English cousins are studying at the same age. As Greek and Latin recede farther into the background, we shall see that the extended secondary course in English must include relations to other languages, without which we have our frequent provincial helplessness in high school graduates. Experience has shown that laboratory methods have especial value at this seventh-eighth grade age. The new courses in science, worked out in Springfield, Oak Park, and elsewhere for the ninth grade, will be even more effective a year earlier. We may not hope for the expenditure required to make possible the more substantial work needed in these first years of the new life unless we take advantage of the start already made in high school equipment.

Of the few arguments made against this arrangement there is one which has some weight. It is that we do not have the teachers who are able and ready to do what is needed. I have visited recently the headquarters of one of our great engineering firms, where ten millions' worth of work is under hand. Our most effective school organization is far behind what they have worked out. They do not lack for money because they show unmistakably that they know how to use it. I am proud of the social engineering that is under way in our city schools and institutions for training teachers, but we all know that it is far from adequate and that every

demonstration of its efficiency makes funds more available and expert teachers more possible.

The six-year scheme is only an incident in the growth of the school. Its main significance is in the fact that it shows recognition of social and psychical conditions, which must be better understood in order to be used. What we need most is the careful study of local problems and the meeting of the needs they present in the light of the best experience available.

FRANK A. MANNY

KALAMAZOO, MICH.

IV

THE GENIUS OF THE AMERICAN HIGH SCHOOL (II) [1]

III. COEDUCATION OF THE SEXES

Section 1. The Status

The term coeducation has many meanings and uses: in describing the actual state of our schools in this respect we call attention to three great elements, the latter two of which are commonly denoted by the term coeducation; these are the mingling of the sexes in the same school and the same classes, and the provision of identical courses and instruction for both boys and girls. The first point to be discust is one which is not usually considered as a part of coeducation, but which must be taken into account as being really the underlying motive and chief determinant of all other conditions in the problem: this is the doctrine and practise of equivalent educational rights and opportunity for the two sexes. We turn now to a consideration of this principle.

1. Equality of educational rights and opportunity.

Here again we encounter a distinguishing characteristic of American education in general, and of our secondary schools in particular. There is no parallel in history, nor in other school systems of the present day, to the complete recognition given in the United States to the right of women to education above the elementary school. With us this right is in no way matter of debate; it is taken for granted in all discussion and embodied in practise. In Europe, theory is beginning to acknowledge it, but practise is infinitely in the rear, and is being dragged along slowly against obstinate and determined opposition. Nevertheless every one of the great nations of western

[1] The first article on this topic appeared in the EDUCATIONAL REVIEW for January, 1909.

Europe is laboring to equalize the educational opportunities of the two sexes; it would seem that England is in the lead in this movement, followed closely by France, and afar off by Germany.[2] The backwardness of Germany in this respect is vividly seen in the fact that, out of 45,136 university students in 1906-7, only 254 were women,—one in 178; in the United States, out of 149,700 students, 53,125 were women,—more than one in three.[3]

This principle and practise of equivalent rights and equivalent opportunities for girls is one of the most important data in our educational problem. The principle did not obtain from the beginning, but was gradually established in the course of the first half of the Nineteenth Century. Many interesting data and incidents in the movement may be gleaned from Dr. Brown's *Making of our middle schools*.[4] But, while the principle is established immovably in our educational system, the details of its realization and the results of its operation are giving rise to much discussion and no little perplexity. Two of the most important problems are those still to be discust in this section of our paper, the questions of identical curriculums and mixt schools. One other very serious problem in our educational situation is closely related, the great preponderance of women in our teaching force. A word on this point may be in place here.

Doubtless, it will be said that there is no necessary connection between equality of the sexes in educational opportunity and the feminization of the educational army. Passing this without argument, it must be clear that, without the present large opportunity for the education of women, the preponderance of women teachers would be impossible. Furthermore, no one who is familiar with the motives and ambitions of the young women in high schools and colleges can ignore the fact that they are very generally imbued, more or less consciously, with the idea of profiting financially from the outlay involved in higher education, and in the great majority can look only to teaching for returns. Normal schools and de-

[2] *Report of the Commissioner of Education*, 1907, p. 101, 156, 183.
[3] *Report of the Commissioner of Education*, 1907, p. 184, 750.
[4] See especially p. 250-255.

partments of pedagogy can testify overwhelmingly on this point. Most of our educational experts, and especially the most serious and competent of them, look with profound apprehension upon the situation. We have in our schools seventy-seven women to every twenty-three men, more than three to one. Only one European country surpasses us, Portugal, with eighty-eight per cent. of women; next comes England with seventy-one per cent., and last of all Germany, with only a fraction over fifteen per cent.[5]

The most serious part of this situation is generally felt to be the preponderance of women teachers in high schools. Most would agree that the primary grades are best committed to the care of women, and that the grammar grades might well have a large proportion of women teachers, but that when the high school age is reached, the boys especially, and probably the girls also, need instruction and discipline from men. In Europe it is common enough to see girls, even in the elementary period, and in schools exclusively for girls, under the instruction of men; but never boys of high school age taught by women. Indeed, so extraordinary is our practise in this regard that it may seem a strange omission in the present article not to designate the preponderance of women teachers for boys as one of the conspicuous elements in the very genius of the American high school. The only justification for the omission is the belief,—possibly born mainly of the desire to think so,—that the feature is rather an incident, or even an accident, and not at all of the essence of the institution; and with this goes the hope that the fault may be eradicated and the institution left not less, but more, itself. In any case we may all agree that the condition in question is one of the most serious elements in the whole high school problem.

2. Mingling of the sexes in schools.

It is easy for us Americans, especially for the large number who have attended coeducational secondary and higher schools, to forget that the mingling of the two sexes in the secondary and college periods is not the accepted and established tra-

[5] *Report of the Commissioner of Education*, 1907, p. 171, 555.

dition but the new and extraordinary. The fact is, of course, that there is not and never has been any other great system of schools for youth in which boys and girls were taught together. The history of education presents a few theorists,—among them Plato himself,—who advocate what is now known as coeducation, in various forms and degrees, Plato being the most extreme of all and going far enough to shock the most ardent modern advocate of the plan.[6] Indeed, so unqualified is his denial of qualitative differences between the sexes, both in nature and in function, and hence in the training required for both, that one is almost forced to think that the great philosopher is laughing at us in the quiet inscrutable humor he often affects. A serious and more feasible conception is found in an interesting fragment from the Roman Musonius, writing in the latter half of the first century A.D.[7] Some occasional and sporadic cases there are of actual schooling of boys and girls together in the secondary period, but so few and disconnected that they have hardly left a trace in history. The almost universal plan has been unisexual schools; and both individual schools and systems of schools of this type occupy a large place in the history of actual school education.

A survey of European schools at the present time shows the separate school almost entirely in possession of the secondary field. Coeducation is quite unknown in the higher schools of Germany and France; in England all the older schools above elementary grade are separate, including the historic public schools, the grammar schools, and the private schools of many grades and characters which carry their pupils over a longer or shorter stretch of the preparatory curriculum; these constitute the great bulk of the secondary instruction. It is true that many, perhaps most, of the new municipal secondary schools in England, known as schools of science, or even by our own term, high schools, are coeducational; and these schools approach the American ideal more closely than any other considerable body of institutions,—not only in coeducation, by the way, but in several other characteristic

[6] *Republic*, Book V, especially 455.

[7] Monroe, *Source book of the history of education*, p. 401 ff.

features. Besides these there are in England a number of private secondary schools on the coeducational plan, most of them more or less avowedly experimental.[8]

It should be noted in passing that most European countries while making separate schools the universal rule in secondary education, have always tended strongly to the same plan in the elementary schools also. It is safe to say that the greater part of elementary education above the first two or three years is done in separate schools, and that the greater part of the coeducational schools above these grades would be excused by those who control them, solely on the ground of circumstances which forbade the establishment and maintenance of separate schools.

In view of all this the statistics of secondary schools in America are impressive enough. The conditions in 1906-7, as shown by the *Report of the Commissioner of Education* for 1907 (II, p. 1073) is as follows:

Enrollment in secondary schools, both public and private:			
Separate schools:			
For boys alone,	44,895		
For girls alone,	48,403	93,298	11 per cent.
Coeducational schools:			
Boys	320,029		
Girls	434,864	754,893	89 per cent.
		848,191	
Separate schools		43,504	5.8 per cent.
Coeducational schools		707,577	94.2 per cent.

3. Identical curriculums.

It is quite clear that one may believe in equal educational privileges for the two sexes without believing that they should receive the same training; or even that one may approve the mingling of the sexes in the same institution and still hold that the studies for boys and girls should be different. We have here, then, a third and distinct question in the coeducational problem. It can conceivably be answered in many ways:

[8] Alice Wood—*Coeducation*, London, 1903.

we may insist upon identical studies and instruction for all; or we may advocate a partial variation of the curriculum; or we may maintain the principle of a complete differentiation between the curriculums for the two sexes.

As to the actual practise of high schools in this respect, there seem to be no comprehensive reports or statistics. But it is quite safe to say that identity of courses for boys and girls is the general rule, and differentiation the exception; this is subject, of course, to certain modifications, of which we shall speak later. The great majority of small high schools find it impossible to offer variation of courses for the two sexes; indeed, many of them, as is well known, exhaust all their resources in maintaining one "course," which all students, boys and girls of all tastes and aptitudes, must perforce take. But this is not all: in the larger and even in the largest high schools, differentiation of courses for boys and girls explicitly on the basis of sex, is rarely heard of, aside, of course, from the provision of shopwork for boys, and domestic art and science for girls. It is interesting and significant to examine, with reference to this question, the two standard works on secondary education in America: Dr. Brown's *Making of our middle schools,* and Professor DeGarmo's *Principles of secondary education.* In neither is there any considerable mention of differences in courses to fit the two sexes either as a fact or as a problem; an examination of the specimen curriculums appended to each book fails to reveal the presence of any such differentiation in the schools represented.

Section 2. Debate and experiment

So far as the public high school is considered, then, tradition and status are overwhelmingly for coeducation. But we have begun in recent years to raise serious question concerning many established facts in our education, and coeducation has not escaped. The wonder is that the doubt and criticism did not arise sooner, and that they have not reached far greater measure. Both discussion and experiment have occurred, altho the discussion has as usual been out of all proportion to the practical testing. As so many of our colleges,

especially those of recent foundation, are also coeducational, it is not strange that they should be included in the debate; indeed, one of the earliest and most conspicuous experiments was that in the Junior College of the University of Chicago. In view of the very close relation between the first two years of college and the high school, and the great similarity between the two classes of students, we shall not attempt to exclude the college from the discussion.

Probably the most interesting experiment in a high school is found in the Englewood high school in Chicago. The plan is termed by Principal Armstrong "Limited segregation," and denotes that "the sexes are not in separate buildings, but simply separated in their recitations." The plan is meant to permit the instruction to be fitted to the widely diverse natures of boy and girl at the critical period. This would include, we may assume, differences both in content and method, and possibly, altho not necessarily, in studies pursued. It is the mildest form of segregation, leaving untouched a very large part of the influences that are usually placed to the credit of coeducation. The verdict of the principal, and apparently the general consensus of opinion are favorable to the plan. The whole experiment should be carefully studied by all who are interested in the high school as an institution.[9] A similar experiment is in process in the Broadway high school in Seattle, from which we may hope to learn much when sufficient time has elapsed.

The University of Chicago experiment in segregation was, at its initiation, the object of animated discussion, pro and con, but especially the latter.[10]

Similar experiments are being made in other parts of the country; it is to them that we must look for reliable light upon the whole question.

Curiously enough, while coeducational America is thus

[9] J. E. Armstrong—*Limited segregation.* Published by the Illinois Congress of Mothers, 1906. See also article by the same writer, *School review,* December, 1906, p. 726 ff.

[10] *Nation,* 75: 147. *Popular Science Monthly* 62: 5. See also very important articles in the EDUCATIONAL REVIEW, February, 1903, p. 121 ff., and the *Nation* (New York) 76: 268.

doubting and testing, England, completely committed by tradition to the separate school, is making a number of enthusiastic experiments with coeducation. How numerous these are and how strong is the favorable conviction of those concerned in them can be learned by reference to Miss Alice Wood's little book, *Coeducation* (published by Longmans), and also, tho less definitely, to certain papers in the recently published *Report of the International Inquiry on Moral Education.*[11]

Section 3. Comments

Taking a general view of the situation as to coeducation we are impress with the following points:

First, we can not but see that coeducation in school is no isolated fact, but is part and parcel of our American social system, which in all its phases permits great freedom of association between the youth of the two sexes. When this fact is once fully realized coeducation loses part of its force, part of its credit in the eyes of its advocates, and part of its dangers, or at least part of its responsibility, in the eyes of its opponents. Moreover, the loss of coeducation in schools wears a less serious aspect when one perceives that coeducation would still continue to act in home and church, on the street, and in general social life. At the same time this fundamental character of the coeducational plan must be a serious consideration to those who would abolish it from the school, inasmuch as there is reason to think that the general social system would vigorously oppose a move so contrary to its genius and method. Just as the introduction of coeducation is slow and laborious in Germany and England, and meets opposition and hostility at every step, so would the segregation of the sexes in the United States. This has already been shown in the attitude of great numbers of people toward the " limited segregation " of the University of Chicago and of some of the large high schools.

Secondly, it is vitally important to distinguish between

[11] See especially Vol. I, Chapters XVIII, XIX, XX. See also *Report of Moseley Educational Commission*, p. 13, 113, 143, 165 f., 267, 301, 319, 354.

the separate problems often confused under the term coeducation; this has already been discust in Section 1. Argument quite sufficient to establish the need of different curriculums for boys and girls might fall far short of proving that the boys and girls should attend separate schools. And conceivably valid reasons might be given for separate and different instruction for the two sexes, even tho both pursue the same branches, at least in name; for example, both might study physics, but in separate classes and with a different choice of matter and method of teaching. Underlying all these questions, and safe from any attack, in theory at least, is the doctrine of equal opportunity for the two sexes; no debate or experiment on other questions should be suspected of sinister designs on this great accepted and admirable principle of American education and American social life.

So far as the mingling of the sexes in classes and in schools is concerned, the most subtle, obscure, and difficult question is of course that of the mutual influence of the sexes upon the wholesomeness and efficiency in the present school life and upon soundness of development for the future. Two serious charges are made against the coeducational plan, that the pupils of both sexes are distracted from their school work, and that actual sexual immorality occasionally results. Upon both these points reliable data of observed fact are meager in the extreme, if not quite wanting, and opinion among experts is hopelessly conflicting. The present writer has not yet learned of a single case of sexual immorality that could be charged definitely to the school. One thing needs great emphasis just here, and that is the constant danger of what might be called the physiological fallacy regarding the sex impulse and nature: sex is, in fact, far more psychic than physiological in all normal civilized human beings, and especially in early adolescence. The comparatively pure and wholesome sex feelings of the typical "first love" remove their object far above all touch of bodily grossness. It is a superficial and illusory view that attempts to decide the sex problem in coeducation without profound regard for this great element in human sex life. It is quite in accord with Nature's ways

that she should sell us the rich possibilities of this influence at the price of serious perils from the coarser strains in sexual nature. It would not be surprizing if "Nothing venture, nothing have" applied also to this problem.

The great need in the coeducation debate, as in so many educational problems, is experiment, or at least experience, and the study of the results. Let those of us who favor coeducation lay aside all bigotry and assumption of infallible right for our side of the question, and welcome conservative and guarded experiments, such as those already referred to in this paper. Such experiments are needed in far greater number than now exist, and should be subjected to the most careful scrutiny. They must be continued long enough to outwear the effects of novelty and curiosity; interpretation must guard most vigilantly against that sin which universally besets the advance of knowledge, the *post hoc ergo propter hoc* fallacy. Of course, demonstration can not be expected, but every thoro experiment will, in its own form and development, be a living witness and working exemplification in itself of what can be done or can not be done under certain conditions. Such conclusions may be applied with much confidence where the conditions are closely similar. But hasty generalizations must be shunned like poison.

Finally, not because it comes logically last, but because it is vital to many problems in school life, we must raise the question whether many of the difficulties and perils that perplex our high school teachers and administrators rise not so much from coeducation as from the general *laisser faire* policy which rules the moral and spiritual realm of education today. How completely the emphasis has changed from the moral to the intellectual in secondary school and college can be seen in a score of ways. The greatest lesson for our schools to learn today is that moral development will not take care of itself, but must be tended and cultivated quite as assiduously and wisely as the growth of knowledge and reason. A conservative believer in coeducation must still admit the perils that inhere in the plan, but most good things have their own peculiar dangers that may be avoided, either by renuncia-

tion or by vigilance and assiduity. No one should expect coeducation to "run itself"; we may hope to reap its fruits only as we obviate the dangers by the wisest and most unflagging guidance including both restraint and stimulus.

IV. FREEDOM AND SPONTANEITY IN STUDENT LIFE

No feature is more characteristic of American education, both in school and out, than the freedom and encouragement that it gives to the impulses, desires, ambitions, and manners of children and youth. Not that America is alone in this respect, for all the leading people of the world are recognizing the child as never before; witness Ellen Key's extreme *Century of the child*,[1] and Paulsen's moderate but decided *Väter und Söhne*,[2] among many voices announcing the changing times. But America is in this, as in so many respects, in the forefront,—with the result that she is peculiarly subject to the criticism of the conservative, a needed and wholesome criticism, doubtless, even tho it is not always quite fair. From kindergarten,—and nowhere has the kindergarten, the embodiment of child-freedom, been more fully adopted than in America,—from kindergarten to high school, the American school is marked by freedom and ease of common life between teacher and pupil; the very fact is significant that the American says *teacher* while the European says *master*. Among us the victory of the "New Education" over the "Old" is most sweeping; compare, for example, the oath of the Athenian ephebos graduating into citizenship, with the commencement "oration" of the modern high school youth: the one dictated by immemorial tradition and reverently accepted by the lad; the other expressing, in theory at least, the independent and spontaneous ideas and impulses of the youth.

In the high school this freedom and initiative are shown particularly in two general forms: the first including the numerous and conspicuous "student activities," such as athletics, school papers and annuals, societies and clubs; the

[1] English translation published by G. P. Putnam's Sons, 1909.
[2] *Deutsche Rundschau* (Berlin), May, 1907.

second comprising all the various forms and degrees of the elective principle in courses and studies. In both of these respects the American high school stands alone among the secondary schools of the present and past; the only approach to it being the considerable amount of independence and authority allowed to the older boys in English "public" and other high grade boarding schools; this liberty, however, affects only general life and discipline, and does not extend to studies and class work, where the usual strict prescription and control are found.

Concerning election in its various forms little need be said here for the reason that so much has already been said elsewhere, and both the situation and the problem are widely understood. The American high school pupil, in all but the smallest schools, has a considerable range of choice as to his course of studies: the choice sometimes is between various so-called "courses" or groups of studies, each group covering the four years of the high school, with little or no variations within the group; sometimes it is a direct choice of separate studies or branches, so that the pupil chooses, not merely the general direction of his training, but the particular branches to be included. The first named form of election, the option of various kinds of curriculums, is found to some extent in European school systems, as illustrated by the three types of standard secondary schools in Germany and the various trade, technical, and commercial secondary schools growing up parallel to these. It is certain, however, that the pupil has far less voice or influence in the selection of a course than has the American boy; the decision is often based entirely upon social standing and practically always made by the parent, often with little or no regard for the tastes and aptitudes of the youth. The present writer knows of a German father of high social and professional rank who, in spite of his son's passion and talent for science, qualities of which the father was enthusiastically proud, nevertheless sent the lad to the classical gymnasium because, forsooth, that was socially the correct thing.

Of the more open election involved in choosing separate

branches to make up a curriculum, Europe knows practically nothing, with the meager exception of a few options between certain closely allied subjects, such as two modern languages, or two natural sciences, and the like. To what excesses our own secondary schools have sometimes gone in this respect need not be here recounted; the height of the elective fever seems to be past, and we are again realizing that age and experience may have something to say to youth even concerning the choice of its studies in the secondary school.

More profound and significant than choice of studies is the scope and encouragement given in the high school to the spontaneity and initiative of the students in non-academic matters. The most striking region for this freedom has, in general, been athletics, with its mechanism of teams and managers, trips and schedules, gate receipts and guarantees, involving often the gathering and expending of thousands of dollars, and all the responsibilities of large and complex business affairs. Less conspicuous but important are school publications, annuals and monthlies, with occasionally a weekly paper. Growing with a startling speed are the student social affairs,—dances, picnics, receptions, theater parties, and the like. Perhaps no more serious problems confront the high school principal than those arising out of these affairs; certainly no part of school life more seriously threatens both good work in school studies and that democracy which is so essential to our high schools. Fraternities must also be mentioned here, as the form in which the student impulse has come sharply into conflict with school authority; fortunately the outcome has served to show that the final word is still to be spoken, not by the students, but by the presumably better judgment of teachers and school boards. The violence of the conflict over fraternities does show, however, how powerful are the impulses and resolution of boys and girls of high school age. While in practically all cases the school authorities retain final authority in all these various activities, and in many cases take an active part in plans and methods, still the motive and ideals come in the main from the students, and must be reckoned as a real manifestation of their im-

pulses; indeed, restraint is always a considerable part of the rôle of the faculty.

While we can not here undertake any full discussion of this great feature of the high school situation, we call attention to a few salient points. And first this system of freedom and encouragement to the natural impulses of youth should furnish invaluable evidence as to the real character of adolescent tendencies. Even a slight inspection of student activities in high schools enables us to note several marked impulses, particularly those of bodily activity and prowess, rivalry in various forms, especially in combination with class or clan spirit, fondness for note or its specious counterfeit notoriety, and finally the passion to be like one's elders, especially those immediately above us in age. In each case the impulse shows itself in rational and irrational forms: moderate athletic interest *versus* wild excess; healthy and human competition *versus* fierce and irresponsible conflict; a wholesome desire to lift one's self above mediocrity as opposed to the zeal which sacrifices health and well-rounded life for a mark or prize,—the latter, by the way, usually in athletics or debate rather than school studies; and lastly the indispensable instinct of maturing as contrasted with the avid pursuit of all sorts of collegesque earmarks, such as the familiar pegtop trousers and long pipes, school and class colors and yells, and other, not always even harmless externalities of the next higher academic grade. The main point is that the high school affords a unique field for the observation and determination of these impulses. One caution must be exprest here, however, in far fewer words than it deserves, namely, that the freedom of the high school is not individual but mass freedom, and hence the impulses which manifest themselves so clearly are mass impulses and common or prevalent characters; on special or individual impulses the situation throws no remarkable light; indeed, it is likely that much individual character is crusht under the wheels of the Juggernaut of the general taste and desire.

As to the degree and operation of the freedom itself, it is easy to be ultra conservative and condemn it as excessive

and pernicious, or to be sanguine and quasi progressive and approve it as part and parcel of the good "New education." Neither verdict is warranted by the evidence in hand, and in all probability neither is correct. Educational doctrine since Rousseau's day has been more and more deeply infected with his extreme conceptions of the great truth of the rights and needs of childhood. The old formula declared that the first duty of youth was obedience; the new, after Rousseau, forbids us ever to command; surely, here as elsewhere, the right path is that mean between the two extremes which Aristotle pronounces to be the very nature of virtue. The old education suffered loss almost beyond conception thru neglecting and even crushing the natural powers and impulsions of childhood; our peril seems rather to lie in the removal of guidance and restraint and allowing the natural impulses to run riot in the pursuit of the moment, and so lose their due and proper fruit for growth and development. The raw energies of youthful impulses and enthusiasms are in constant need of the counsel, direction, enlightenment, and even restraint of the adult intelligence and will. The real art of training is to direct and utilize these forces to the two great ends of developmental life, the normal joy and richness of childhood, and the highest realization of mature potentialities. The old education was blind to the former aim, the new tends to slight the latter; it remains for the future to harmonize and express both.

Meanwhile the wise teacher or parent will not be overanxious about the innumerable oddities and excesses of youth; the truth is that real dangers are usually not excesses or superfluities but rather defects. We must deplore the tendency in our schools to win their games at the cost of scholarship and even honor, and we can not fully approve the swirl of social affairs that just now threatens the work of our schools; but the real task is not so much the eradication of these evils as it is the infusion of new life into higher and still no less natural impulses,—those of clear thought and high mental development, fine and dominant social and personal honor, and, as Milton has it in his splendid *Tractate on education,*

"high hopes of living to be brave men and worthy patriots, dear to God and famous to all ages."

We may well close with these noble words of the poet and schoolmaster, and a suggestion of their relation to the four characteristics we have considered: the democracy of the high school makes such ideals more than ever needed in our land; they have, for the age of early adolescence, a peculiar appeal, likely soon to pass away unless seized by education and solidified into habit and spiritual principle; by their power coeducation may be enabled to yield its characteristic benefits without falling into its peculiar perils; and only by their aid can the great currents of free activity in youth be directed permanently into the channels of a rich and beneficent life.

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V

A CHRISTMAS VISION[1]

Once upon a time three men, old and wise, led by a wonderful star, carried gifts of gold, frankincense, and myrrh to a newborn child.

> "They laid their offerings at his feet:
> The gold was their tribute to a king,
> The frankincense, with its odor sweet,
> Was for the Priest, the Paraclete,
> The myrrh for the body's burying."

Centuries rolled by, generations of men came and went, but the star continued to shine. It is shining still. For some eyes it has been lost in the multitude of other stars that light our human understanding. Many a man, wise in his generation, an earnest seeker for the king that is to be, has followed the light of some other star, and has laid his gift at the feet of a youth, a man, or even at the door of a temple, a dwelling-place, or a seat of learning. But again and again a man really wise, wise for all time, has singled out from the others the wonderful star, has followed where it leads, and has laid his gift at the feet of a child, at the feet of all children that are or will be, at the feet of childhood itself.

When the wise man sees in childhood that which some day will rule, he brings his gift of gold to the king. It was such a gift that Comenius brought more than three hundred years ago when he performed such important service in the cause of elementary education. They are gold that is heaped at the feet of childhood—all the institutions that are designed to fit it for kingship—schools, courses of study, child-labor laws, and so on.

[1] An address delivered before the Brooklyn Kindergarten Association, December, 1908.

When the wise man sees in childhood not kingship alone, but divinity, he brings a gift of frankincense. It was such a gift that Froebel brought. True, he perceived two selves in the child—"one, peculiar, arbitrary, capricious, different from all others, hostile to them, and founded on short-sighted egotism. But the other self he perceived to be reason, common to all humanity, unselfish and universal, feeding on truth and beauty and holiness." In the kindergarten he attempted to unfold the rational self and chain down the irrational. He tried to cultivate selfhood and repress selfishness.

The myrrh brought of old by the wise men was a gift, not to the king nor to the god, but to the man of sorrows. Many wise men have come in our own day with this gift for childhood, the precious gift of sympathy that comes from an understanding of a child's little human needs and human trials, trials of slight importance to the man, but so tragic to the child—such are Robert Louis Stevenson, Eugene Field, and a hundred others.

Now, when Miss Curtis invited me to speak to you this afternoon she gave me a topic, "The Christmas vision," nothing more. Then she went away to get this program printed with the star on it, and left me with my vision.

I saw the star guiding us teachers—you and me—to the cradle where childhood lies, and in our hands we carried gold, frankincense, and myrrh. Our gold was offered to the king; and it was what the wisest of kings chose above any other form of riches—not knowledge, that comes easily and goes easily, but wisdom which we are told "is more precious than rubies, and all the things we can desire are not to be compared unto her. Length of days is in her right hand, and in her left hand riches and honor. Her ways are ways of pleasantness and all her paths are peace." Now, in my vision we had learned how to make children wise. We had been brave enough to discard all that programs or courses of study prescribe that is merely traditional or temporary, and we had held fast to that which is eternal.

The frankincense we offered was our reverence for the child's personality, our recognition of the divine in him. Hav-

ing reverence, it was not possible for us to make to ourselves a graven image of what, in our opinion, a child should be, and then insist upon the child's growing like the image. In my vision we had so thoroly studied the nature of childhood as to learn what it needs for its development. In attempting to chain down the child's lower self we had ceased to forget that there is a higher self that must be allowed to develop.

The myrrh that we offered was the power to enter into a child's joys and sorrows—to become childlike ourselves. We were possest of the power to become as little children, a power that is sometimes given to the ignorant and humble and denied to the learned and proud.

This, then, is the vision of you and me being led to the feet of childhood, bearing in our hands gifts of wisdom, reverence, and sympathy. But the best has not been told. You remember the young man who was afraid because the enemy compassing the city seemed so many and the supporters of the righteous man so few, and you remember that, when the prophet prayed that the young man's eyes might be opened, they *were* opened and he saw: and behold, the mountain was full of horses and chariots of fire round about the prophet. In my vision our eyes were opened, and we could see how many more were with us than against us. We could see thousands of teachers coming from all parts of the world bringing wisdom, reverence, and sympathy as gifts to childhood; and we could see wise men and women not called teachers at all, but statesmen, churchmen, physicians, poets, novelists, painters, all following the star we followed, and bearing in their hands gifts similar to ours. And so we were full of hope, courage, joy, not only because we were bearers of such precious gifts, but also because we were part of the glorious host of gift-bearers. This, to my mind, is for kindergartners, for all teachers, the Christmas message, or, to use the words of Miss Curtis, "The Christmas vision."

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VI

EDUCATION BY PLAY

THE INSISTENT DEMAND FOR NATURAL EDUCATION

Public education is slowly releasing itself from pure scholasticism. Born and reared in a clerical atmosphere, it maintained for its ideas the values of serious learning, and worked steadily and successfully toward those ends. The result has been that the general culture of the world has increased, more and better opportunities have been given to the many to select themselves for the learned professions, and large profits have been returned to the general mass from advanced science and administration.

The speed and certainty of the movements of society in trade and the handling of merchandise have become assured by the general knowledge of the fundamentals of reading, writing, and arithmetic. While all this is true, and much more can be claimed, the education of today no more results in the training for the establishment of the proper basis for human relationship than it did in its beginning.

Since the striking out from our plan of instruction in behavior which was based upon religion, there have been sporadic, and but measurably successful, attempts to produce courses in ethics which would take its place. Whatever the final result of this form of instruction will be, it is safe to predict that rules of the proper method of ordering life will never be learned from books or by precepts as definitely, and as certainly, as they will by the method that nature has provided for us, by " play."

Man's success in life depends upon his assuming proper relations to his fellow-man, and the success of our scheme of civilization depends upon the proper maintenance of these human relations.

Where failure has been the lot of many, it is invariably due (physical defects aside) to inability to follow out one or more of the great principles of human relationship, which are the rules of the game and are taught in the play of childhood and adolescence with dramatic certitude.

Despite physical and mental deformity, dangerous pavements, dirty stairways, and crowded houses, every child not already moribund will endeavor to play. The instinct is vital and inseparable from life. As such it demands the respect and attention of the biologist, for instincts so persistent mean fundamental evolutionary principles which are indissolubly connected with racial continuity and progress.

Play is the natural preparation for life and social adjustment. The sand pile and mud pie, the chase and hiding, are the first practise in getting acquainted with the making of things and the ways of competitors. The formation of a "side" or a team is the first and most vital recognition of cooperation and partnership. The differentiation of what is fair from what is not fair is the first spontaneous recognition of law and order.

There is a clearly defined course of study and an accurate syllabus of play, written by the "school superintendent of nature," in the developing human being, that, given the opportunity, will be followed by every child thru its course of development more certainly than if it were laid down by fallible human hand.

Its content will be at first simple, attuned to the simple nature of the child; gradually it will unfold to greater complexity as different abilities are added and instincts ripen. Its items will be practised over and over again, and its lessons learned with tears, shouts, and laughter, till they become part of the child forever.

It teaches the fruits of endeavor at their real worth, but not as the books tell about it in terms of unreal illustrations or abstractions. It gives real values to tenacity, courage, fairness, courtesy, cheerfulness, cleverness, and brute force long before the names of these qualities are learned and its im-

pressions become character before the words can be spelled.

In short, here is a whole plan of education, the importance of which is immeasurable. This we have but dimly recognized, tho we have grudgingly given it a place in our finite endeavor to do duty to our children.

Our enlightenment has gone to the extent of providing some playgrounds, and leaving them unattended, instituting recesses in the school day, and leaving them unorganized, and worse, giving a little of the physical training time for play, time stolen from other valuable endeavor; and so on. The whole list would make a pitiful array of concession to the human nature of the child; an unorganized and occasional method of providing the minimum.

From this we are threatened with and have now a relatively, playless, and therefore, godless, generation growing up without having virtually learned in any real way justice, courage, and the value of decently and fairly "fighting hard and square," in the game of life.

The surest way that municipal corruption will perpetuate itself is to withhold the proper remedy.

We need and must have a thoro and complete education by play, conducted by the educational authorities in connection with, but not supplanting its present work. It can not be conducted by any other authority any more than proper medical supervision of instruction can be made by unsympathetic boards of health.

In the grades there must be play thruout the school year and in the summer. This can be done in classroom and playground during and after school. As it is often the sad case that spontaneous play reaction is weak, instruction is essential at first; later it will wane into a delightful sympathetic supervision. To this end, the present mechanism of the school and the play and game opportunities must be utilized to their fullest extent. It is not enough to provide city playgrounds with an attendant in charge, there should be teachers of physical training trained in play, games, and athletics. The cities' athletic fields must maintain teachers in athletics and

athletic games, the school playgrounds should be open after school with teachers of play and athletics in attendance and constantly acting as teachers and supervisors rather than attendants. New play, game, and athletic spaces should be added until there is an ample provision for every schoolchild. Not only should there be ample provision made, but the same attention should be given to the child's education by play as there is to his education in arithmetic, but it should be seen to by our educators that a course of study is laid down, followed, learned, marked, and the student graduated therein. Instead of endeavoring, in an occasional way, to grudgingly increase play space as the budget or the tax rate will allow, we should change our point of regard and begin with the thesis that every child must be given a minimum of one hour of play every day of its school life: each hour to be made of value to itself and to the city. We must then survey our facilities and our corps, and increase the same intelligently with the definite end in view.

This will lead us first to the school playground, so often closed to the children, barred out by its gates, next to the parks and piers, and lastly to the streets. Let us first use the facilities at hand, providing proper instruction and supervision; if these are not adequate (which they are not), we will know how much further we must go.

So far, only the school life of the child has been considered. The duty of the city to provide play opportunity for its youngest children is equally obvious. The necessity of providing for the continuance of play after school life is over is one of the crying needs of the day. Our girls will less often go wrong and our young men live more clean lives if, during the natural playtimes of evening, Saturday and Sunday, they are given the opportunity of playing the games they have learned to love as their natural birthright during their schooldays.

Nor have we considered other than the educational values of the play and game. Play takes time away from perilous and stupid idleness. It gives strong bodies resistant to the omnipresent disease germs, and inspires as certainly as may

be the continuance of a vigorous racial stock. The right way to begin the attack on the tuberculosis scourge is to see to it that each child has ample and appropriate play.

The fact that a child has a good time in his play, the joy of which makes childhood the subject of the pleasantest reminiscences of manhood and womanhood, has not been obtruded. Life would not be worth the living without the play of the children. Nor would it seem that children were worth while if they were not to play.

For their own education, for their health and their joy, and for the sake of a new generation, trained in the play ideals of vigor, honesty, tenacity, and courage, let us see to it that every child is given the most thoro course of play we can plan or our adult instincts can prompt.

C. Ward Crampton

Director of Physical Training
New York, N. Y.

VII

CONTRIBUTIONS TO THE HISTORY OF AMERICAN TEACHING (II) [1]

When the traveler returns from a long journey, his resting hours take him in memory to the places and persons he has met. He reviews his associations, the delights once enjoyed are renewed, even tho the participants have gone to the beyond; so with me tonight. Places are not so vividly by, as are persons. My gratification is in the companionship of the men with whom I administered schools, by whose counsel much of what I have accomplished was attained.

The office of superintendent of schools is comparatively a new one. About sixty years ago, Providence, R. I., appointed the first. Nathan Bishop and S. S. Greene were the pioneers. The former early undertook the Boston field. As a pupil in those schools, I remember him as he was seen occasionally on trips of inspection. What he accomplished is not a matter of record.

The propriety of such a supervising and consulting officer soon became apparent, and rapidly other cities in the country installed a superintendent of schools, with varying powers and duties. The names on the permanent roll are those of noble men and patriots.

In view of the careers of these officers, one must conclude that no sordid or low motives lead men to enter upon the work. Only the highest and most lovely character can impel the cultured man of the present to embark upon a voyage that promises little material return. Financial remuneration is inadequate; a scholarly life is impossible; the probability of occupying a transient domicile faces him who enters upon the undertaking.

The administration of a public-school system demands every hour in the working day in the execution of duties which are

[1] The first paper in this series appeared in the EDUCATIONAL REVIEW for September, 1909.

not directly related to literary or scientific pursuits. Those superintendents who have compiled textbooks have done so at the expense of force that rightfully should have been expended in a more loyal direction. If authorship be sought, the superintendent should retire from office while writing. When a man accepts the position, it is with the understanding that all of him is at the service of his employer; that he can not morally enter upon any other field during his incumbency. His time and talent are under contract.

First among the precious friends and notable superintendents whose name rushes promptly to me is that of Dr. W. T. Harris, now happily preserved with us, and in whose company, at his home in Providence, R. I., one is still permitted to drink from the great fountain of wisdom.[1]

In the sixties, the superintendent of St. Louis was putting forth those incomparable school reports which so aroused the superintendent world. We joined our enthusiasm to his wisdom. We journeyed to him, and he, with that genial heartfulness which has ever been a chief part of him, frequently came to us. We had meetings of counsel at neighboring cities. We met at Indianapolis, Chicago, and journeyed to St. Louis to spend a few hours on Saturdays in his company. He was the greatest of us all; words inadequately tell what the educational world has profited in the forty years since, thru his pen and brain. The ordinary man is a pigmy in his presence. Europe has crowned him as the great educational philosopher, while we are vain in being acknowledged as his pupils.

It was about these times that a group of us, Pickard, Powell, Lane, and others, gathered in class to sit at the feet of Elizabeth Peabody, Horace Mann's sister-in-law, the advance apostle and instructor in the kindergarten school. She was old and learned and bright. Our first authoritative view of Froebel and his philosophy was gained that week. Years after, while a guest in Berlin, of Frau Schrader, Froebel's niece, a persistent kindergarten promoter, I failed to receive like inspiration to that which Miss Peabody's teaching accomplished.

[1] Since the above was written Dr. Harris has died.

Berlin kindergartens in 1891 were a disappointment. With the failure to obtain assistance from the public treasury, and the coolness in the work maintained by the school circles, Frau Schrader had not the assistance that the work deserved. But she persisted in promoting the instruction and made remarkable showing with contributions from the private purses of herself and friends. The widow of Froebel was then living at Hamburg, but she had little interest in the great work commenced by her husband.

The kindergarten is effective principally in the United States, and even here the many attempts under that name are not encouraging to the intelligent student of Froebel's philosophy.

John D. Philbrick left Dartmouth College for the teacher's platform, and in due time was made the Superintendent of Boston. He was vigorous, learned, and ambitious. Among other advances, he caused to be constructed the first modern graded schoolhouse,—the old Brimmer. Suddenly, at the end of twenty-five years' service taken from the very pith of his strong manhood, he was dropt from the roll, cast out to look for the where-with-all for daily bread.

In a few years, with a brilliant, short directorate of American education at the Paris Exposition, after writing an exhaustive report on the city schools of the country under the auspices of the National Commissioner of Education, he died all too soon. Who shall say the cause of his hastened death? On my last visit to him at his farm home in Danvers, Mass., the delights in listening to his advances and conquests for Boston schools were side by side with the sadness caused by his grief at the treatment received from his associates on the Boston Board.

A. J. Rickoff, the banner superintendent of Cleveland, was not retained after having gained for that city the Paris award for the best system in the United States. Those of us who were with him during his last years know that he was broken in heart and spirit.

One of the dearest and sweetest characters, Stevenson of Columbus, Ohio, awoke one morning, after twenty-five years' commended administration, to find his successor elected, no

intimation of which movement had been given him. He soon died after futile efforts to recover himself.

Similarly, Jones of Erie, Pa., at the end of more than thirty years, was dropt, when, broken and disheartened, he retired from notice, and almost from acquaintance, to die in a little hamlet in the Far West.

W. B. Powell was killed by the ordinary machinations of that element of American society that viciously participates in attacks made from ignorant and improper motives. The attack on Powell was led by men who had position, therefore power. The Senate Document on the schools of Washington, D. C., put forth by its committee in charge of Senator Stewart of Nevada, presents one of the most disgraceful and ignorant misrepresentations of the schools of a city ever printed. I know of but one other book in the English language that equals it in ignorance, but not in wickedness: *The life of Lord Timothy Dexter of Newburyport,* written by himself, a few copies of which still exist. This report of the Stewart committee has probably been retired by the Senate Committee on *Disposition of useless papers.* One copy, embalmed I trust, remains in the family of each of the men who signed the report.

Powell, retired, tried to interest himself in active work, traveled a little, and, like the others, died broken in heart and spirit, a comparatively young man. I knew him intimately; I worked with him when both were young and ambitious. His single thought was the betterment of the common school. He was the peer of any; he received the recompense often obtained by the city superintendent.

Bright among the spirits about me is that of Colonel Francis W. Parker. Everybody knew and loved him; to me especially, our antecedents as boys in New Hampshire being nearly identical, and our army life, from '61 to '65, being similar, he was very near. What a genial, jolly temperament was his, and how wildly possest with a divine impulse of child-life and power. His presence was a contribution to the highest emotions; his reason, sometimes, was supplanted by a fervor possest and demonstrated by no other in our ranks. His lectures were so interwoven with his personal magnetism as to carry

his audience with him to ecstatic heights. I have forgotten all my trifling objections to his hyperbolic illustrations and over-colored pictures in the realization of his great, warm heart, and his genial conversation. A few hours' social converse with Frank Parker was ample remuneration for a journey to his side.

The Quincy plan marks quite a spot in our educational career. Colonel Parker fell into company with an eminent man, Charles Francis Adams, who, awakened from the school lethargy of a New England community, believed, under Colonel Parker's inspiration, that a new era had arrived in common-school management. Mr. Adams exploited the discovery. In common with the rest, I was profoundly interested. Quincy was far from my home. Among inquiries made, one was to the venerable Danial Hagar, Principal of the Salem Normal School. Dr. Hagar, who had my life long been an adviser in his visits to Denver, in interviews at conventions and at his home, wrote that he would spend the day at Quincy and write me about it. When his letter came, I learned that he had spent an interested day at Quincy. I learned that, while he had found nothing new, he had found new combinations and old methods applied under new relations; that the visit was well worth making, but that appropriation or imitation of the work doing there could not be transplanted, except the presiding genius and administrator, Colonel Parker, were taken along; that without his personal presence the term Quincy method could not obtain.

Dr. W. T. Harris wrote me, " The Quincy Plan is the highest pedagogical joke of our day and generation." The accuracy of the judgment of the writers has been verified.

Associated with Dr. Harris early in St. Louis was Frank A. Fitzpatrick, principal of a ward school, and one of the group of philosophers gathered in that city. Among them were Davidson, Morgan, and Soldan, who with others since famous were students with the great leader in speculative philosophy. The work did not phase Fitzpatrick's tendency to avoid psychological recluseness, and while he appropriated the benefit of counsels, he was not disposed permanently to travel in the

philosophical road exclusively. He is with us today and very much alive to all important issues. After a competent experience as superintendent in St. Louis, Leavenworth, Omaha, and Kansas City, he left school administration for business activity. I have learned him to be one of the fullest (if the adjective may admit of comparison) all-around men in school, as well as in general affairs, since 1870.

He has never ceased interest in education and remains a wise, safe, and prudent counselor. Scores of schoolmasters are indebted to Frank for helpful advice and assistance. He is an omnivorous reader, and holds and uses what he reads. As a reference in politics, history, or religion, either ancient or modern, American or European, no encyclopedia can replace him. His acquaintances are great in number and influential in quality. His presence is welcomed in the eminent homes of the land, his counsel sought by men from every plane. Had he remained schoolmaster, he would have been first; had he been a politician, his rise would have been assured; had he adopted letters, his pen would have been mighty. Education lost when he yielded to the call of business; now he is more comfortable, while the schools are less effective.

Over against the class of able men who have past on, leaving the results their good work has wrought at such personal sacrifice, is found the other group of superintendents who have been fairly permanent in position. Unlike the policy of that great institution, the M. E. Church, which some of the ablest minds approve, namely, frequently to transfer their clergy, school management can never be strong and progressive with frequent change of manager; the work can not be taken up by a man's successor. Each newcomer, however able, is incompetent along the ambitious lines of his predecessor; sometimes, it is true, weak lines exist which ought to be effaced. The school system must be revamped in accordance with the notions of the new supervisor, and so, what crimes are committed upon thousands of pupils by the revolutionary initial step of the new arrival! Better continue in the necessarily somewhat imperfect system of the incumbent, always providing no heinous faults are apparent, than to

change. The impossibility of finding a man, having grand qualities without having great defects, is apparent. Nature provides the nightingale with song, but not the eagle.

The superintendent is necessarily driven to conservatism, but we read of noble and ignoble conservatism. The duties of the superintendent are quite unlike those of any other public office. His principals are not the small board of a commercial or transportation corporation, few in number, but the entire population—men, women, and children. His acts are provokingly before everybody, and each one of that everybody insists upon the right of counsel; too often the compulsory yielding to that counsel. His employer is not a public nor a private, but a quasi-public corporation.

The outcome is overwhelming. The possible and actual differences upon the issues that ultimately rest with the superintendent's decision,—modifications of course of study, discipline for the individual teacher or pupil, location of schoolhouses, appointment of teachers, adoption of the amateur reformer's plans,—scores of problems are left with him to solve. He decides according to his expert knowledge gained by study, observation, and experience, with presumably competent judgment. The decision in each case affronts that group which is particularly interested. In time the groups of the disaffected are many: they join hands in the condemnation of him who, as they believe, has erroneously decided, organized opposition becomes effective and, like Bram Powell, the superintendent departs; with another, and often quite as able or even abler superintendent, the revolution in management is on, while the teacher and pupils start on a new trail.

The office of the city superintendent is especially vulnerable. It is at the mercy not only of the whole community, but also of the press, and the press of today is of a varying quality. Its great power has made it formidable and has drawn to its ranks the highest, ablest, and most scholarly talent in the nation. It directs and controls the chief matters of government, local and national: to the high and noble part of it is due much of the credit of our greater accomplishments as well as the lessening of the wrongs perpetrated

by the smaller but vicious minority. The influence of the press for good is incalculable; sometimes temporarily, it assists the bad.

When the real authority of the superintendent can be cloaked by the assistance of a Board membership that publicly assumes the responsibility of action, his path is less steep; rarely, however, can a Board be found but a part are quite willing to place upon the superintendent the onerous task of defense for what ought to be announced as the unanimous conclusion of the Board.

One great superintendent, Enoch A. Gastman of Decatur, Ill., was a notable example whose lot fell usually along the road of concord with the Board, at least so far as the community knew. His fifty years of tenure of office is an example of what a wise, prudent, conservative superintendent can accomplish with a united Board. I re-read his correspondence last night. Numerous instances of disagreement came to him, but he conquered by confining the knowledge of heated arguments to the Board's meetings. Enoch has just left us, leaving for our comfort the memory of a beautiful, true, and inimitable life.

I should like to write of the personal characteristics as they appeal to me of superintendents I have known; characteristics covering all attributes of men: as Audubon would have written of birds, from the nightingale to the eagle, finding admirable qualities in each, but no duplicates.

Wickersham, White, Calkins, Hancock, Soldan, Marble, Wells, Lane, Howland, Maxwell, Blodgett, Seaver, Cooley, Greenwood, Van Sickle, and Sabin are a few of the names whose lives are familiar and sweet to know.

What has been is most helpful as sentiment, but yet inspiration comes from contemplation. We are in the present; what can we do *now*, and what can we do for the future, is the chief purpose of life.

An old man's conclusions must be taken with a grain of reserve, advancing years are likely to emphasize the glories of the past wherein he was an active factor; he forgets that the young men of the present have, to the experience of the

old fellows, added the power and vigor of current knowledge and culture.

American school history invites review, but no living man can adequately write it; the view is too close at hand.

The schools of now are better than the schools of then, but the advances in teaching are scarcely comparable to those in other fields of activity.

We are profiting, incredibly, by the conclusions reached in the laboratory by students of science. From the tallow-dip to the convenient electric lamp; from the one-horse chaise, at a seven-mile-an-hour rate, to the twentieth century express and the trolley near the farm; from the letter by mail, at five cents postage and delayed delivery, to distribution en route and to rural delivery; from the confined and close-roomed home to the hygienically constructed dwelling with equable warmth, bath, and ventilation; from oral and written conversation to telephone transmission,—all lines of helpful activity have grown, both in quantity and in power. Every citizen, however humble be his station, participates in the progress and in the benefits.

The schools have progrest, more, however, in a physical than in a disciplinary direction. Schoolhouses are better, tho not always bettered by innovations promoted by zealous talent for material gain, or by theorists for experiment. Expensive and profitless changes are much in evidence: change and progress are not synonymous.

As an illustration one notices the demand for an adjustable seat (alas, rarely adjusted) made for the conservation of the natural human frame. The self-adjusting boy to whom Superintendent Marble once referred, was quite out of sight when this adjustableness met with compliance. One row of seats of varied height in the typical graded schoolrom is ample to provide for the few odd sizes of pupils.

The alarm caused by the danger of contracting disease from the common drinking-cup causes the careful, well-bred pupil to own either an individual cup with attending difficulty of permanent holding, and refusal to lend to a mate, or to refrain from drinking during the school day. And yet provision

has been made for quenching the pupils' thirst by permitting them to drink as all other animals drink: *ad libitum,* from fountains of pure running water. I have in mind a city school of 1,200 pupils, any one of whom when thirsty drinks from fountain bowls placed in the school-yard at convenient heights where pure water is constantly flowing. A boy will drink as the bird or colt drinks, comfortably and adequately, his lips only touching the water, just as we all drank from the brook on our fishing trips, only the elevated bowl relieves one of making the water run up hill as drinking from the brook did. The mentioned school thru the principal, whose office covers thirty years in the city, remains an advocate of watering the boys and girls at will. An abundance of pure water is ready on call, while one is unlikely to drink to excess.

Schoolhouses are often planned by the architect alone: the schoolmaster is not consulted. Perhaps his notions, if heeded, would interfere with architectural art or with the contractor's profits. Rarely does the practical schoolmaster of today inspect a modern schoolhouse without noticing errors in arrangement that need not have been made. The architect looks to architectural form and stability of construction; for convenience and effective operation, the schoolmaster is better informed, consequently competent counsel.

The expenditures for public free schooling, especially in the northern United States, amount to a vast sum; they are not as large as they ought to be, but the direction of the expenditures needs modification. Society can see and comprehend the money spent in beautiful and luxurious buildings, while the soul of the enterprise is buried from observation. The training of the heart and intellect—the chief purpose of free schools—needs to be more emphasized.

The value of an elementary education is not immediately apparent; the pupil recognizes that value not until he reaches adult age, when strenuous life finds many of the parents engrossed in material pursuits; little time or thought is given to child-life in school. The active American looks to public improvements that appeal to city pride, and pays liberally for schoolhouses; the workings of the school proper cease to re-

tain his attention. Italian marble for finishing closets, elegant furnishings, and beautiful and massive exteriors attract attention: the visitor listens to the words of pride and satisfaction from the host who shows the outside and inside of the house; the spirit that moves and acts within is beyond comprehension and notice.

From this condition arises an unintended, but nevertheless real neglect of the teaching force for the encouragement and maintenance of which the treasury is found to have been depleted by the cost of non-essential improvements. The school report of a city of 200,000 people for 1907 includes the statement of the per capita cost of schooling. In this one reads that $30.12 per annum was paid for a kindergarten pupil's, and $27.50 for a graded pupil's instruction; $2.62 more for his five-year-old baby sister than for the fourteen-year-old brother—a misdirection of expenditures.

Dollars now expended for externals of the schools should be diverted to the improvement of the school itself; the ranks of teachers, now so congested with women, should find lines of much needed men on duty, and the teaching and training power thereby strengthened, for men as well as women are needed in youthful association. Neither man nor woman is first in competent child training; both are as necessary in the school as in the home.

Villages can be found where, for the erection of a school palace, a bonded debt exists so large that the payment of the interest prevents the employment of a competent teaching force; the schools are officered by inferior talent because low-salaried. It is possible that the latter-day preeminence given to town ornamentation with beautiful and expensive buildings has caused a somewhat general notion that the schools of former days were better than those of the present; then, legitimate effort was concentrated on teaching, and exterior attractions did not obtain. But these schools were not better. At no time in our history have the teachers of the land been upon so high and effective a plane as now. The young men and women now in the teaching corps are better equipped and abler than were those of the last generation.

The supplanting of home by school is one of the latter-day conditions which, however deplored, is an evident feature of present-day life. It has come about, encouraged both by the home and school. The methods of the latter have been such as to interfere with home life to an unfortunate extent. Absence and tardiness, the control of which the school has assumed and the home has been driven to relinquish, has permitted the school to ask and insist upon replies to impudent inquiries.

Not only a general cause for absence in writing from the parent is demanded, but the tactless teacher insists upon knowing exactly why the pupil was absent. When the scared pupil tearfully confesses under pressure that "a new little brother has come," or "stayed home to have my shirt washed," or "father came home drunk and mother needed me," the school is over-reaching. The school asks that the regular meal hours be changed and the family routine demoralized, or the pupil take breakfast alone on the side in order not to be tardy. While many such misconnections are avoided by the tactful teacher, some are still following along the rigid lines, executing literally the "Rules of the Board," without freedom of judgment.

At the outset of the invasion of the home by the school, the average American citizen remonstrated. The popularity of the public school soon placed him in a state of submission unless it became possible for the pupil to be withdrawn and placed in a private school, where parental right had yet an acknowledged existence.

The school's invasion upon home control of children has been met more than halfway by the parents. Business on the part of the father, clubs and society with the mother, have caused many a sigh of relief to arise when the morning school hour arrived—a day of freedom from child-care was at hand, and a responsibility, for the time, removed.

This condition has come about so gradually as to have attracted little attention. At the Los Angeles National Education Association meeting in 1899, two papers were read upon the subject, but no comment followed.

The older schools were indeed tendered and given complete control of the child, but only during his hours in school. At all other times the home was the authority. The old-fashioned American home is of the past. Who shall say that its disappearance is an evidence of progress in social or political life?

The attitude of the old-time parent is illustrated by the following letter, written me in 1876, by an old-school gentleman and scholar, one who was eminent thru his long life, and whose memory is cherished as a notable character. The letter demonstrated how the parent felt then, and how he ought and probably does feel today. And yet, how many such requests have been refused under the legend "take the entire course as prescribed or fail to receive the diploma of graduation."

Denver, Colorado. Sept. 11-1876

A. Gove, Esq.,
High School.

I do not expect to have the courses of education changed to oblige me. Certainly not. And the object of this note is to ascertain if my son can pursue such studies as I wish him to follow and leave the others out? Thus, I do not wish him to study German or French.

If he has to take the whole course, "whether or no," I suppose I must submit until I can do otherwise.

I only want him to read, write, spell, in his own tongue and to have enough of mathematics to complete a useful education. I had seven years of Latin and Greek and the Exact Sciences and that is enough for one household.

My son is soon to take the world for himself and I wish to direct him in a business channel.

But for the everlasting work of a worn out attorney, I would go and see you as I should like to know you.

Yours truly.

To write fairly and justly of the immediate past is an undertaking nearly impossible of execution. The vision is blurred by environment and opinion.

One might write of the recurrent practises and reappearance of reforms, once tried and laid aside, to be resuscitated and again put thru the experimental mill.

The profession of law has, in ample libraries, written

history for reference; mistakes by the profession are avoided; the present profits by the past; experiments and results are a matter of record. Not so with pedagogics; no vast indexed and convenient libraries are at hand: experiment is repeated with the same necessary conclusion.

In the common schools, one remembers departmental instruction; the Grübe method; the misapplication of Herbart's philosophy, whereby the pupil is to make effort only when interested; freedom in the selection of tasks with voluntary application only required; abolition of formal movements about the schoolhouse, the outgoing and incoming to be like that at concert and church; increasing time appropriated to rehearsing and preparing for public displays; encouraging the press in publicity of individual school exercises; coddling the vanity of parents by pupils' spectacular public performances; decrease of memory training, forgetting Comenius, who wrote "the acquisition of knowledge depends upon memory"—many such practises, each one of which depends, not on principle, but upon the skill of the teacher, measures which, like the Quincy Plan, tho approved, to be profitable must be accompanied by the spirit and skill and inspiration of the master, and be a part of the innovation.

A picture of the whole field today gives pleasure, encouragement, and enthusiasm to him who looks. The best American manhood and womanhood is found in our schools. Impelled by desire to great accomplishment—the greatest and noblest in life—that of making virtuous and cultured men and women of the boys and girls in their care, thousands are active in the schoolrooms. Their opportunities are better than were ever before, with such equipment as our fathers never imagined; with pure hearts and cultured brains and vigorous characters and an intelligent and God-fearing Nation for promoter, one can predict for the future of our Country the highest prosperity and an enduring Government.

AARON GOVE

DENVER, COLO.

VIII

THE INTERNATIONAL COMMISSION ON THE TEACHING OF MATHEMATICS

At the fourth International Congress of Mathematicians, held at Rome in 1908, the following resolution was adopted: "The Congress, recognizing the importance of a comparative examination of the methods and plans of study of the instruction in mathematics in the secondary schools of the different nations, empowers Messrs. Klein, Greenhill, and Fehr to form an International Commission, to study these questions and present a general report to the next Congress."

The committee was in due time organized as follows: President, Geheimrath Professor F. Klein of Göttingen; Vice-president, Professor Sir George Greenhill of London; General Secretary, Professor H. Fehr of Geneva. These gentlemen began work at once and appointed as members of the Commission three representatives for each of the countries usually having delegates at the congresses, and one for each of the other countries of importance.

On account of the varied meanings assigned to the term "secondary schools" it was evident from the beginning that the investigation could not be limited to the courses given in institutions that would be called by this name in America. Indeed, such limitation would be undesirable from every point of view. It was therefore decided that the Commission should extend its work so as to include the whole field of mathematical instruction, from the lowest steps to the highest, or at least to the point where individual research definitely begins. This includes the work of the common schools, or indeed, in America, those from the primary grades thru the college, and it also includes the preparation of teachers for these schools, which runs at once into the work of the universities. Furthermore it includes the mathematical courses in the increasingly

large number of technical schools, trade schools, private schools, and professional institutions of various types, schools in which the sexes are more apt to be taught separately than is the case in the American public schools, and where traditional mathematics is giving place to something entirely new in most parts of the world.

The results of such an international investigation can not fail to be stimulating to the best that is in mathematics, and indeed to the best that is in education in general. It is not a body of professional reformers that is at work, but a body composed of practical teachers and of some of the best known of the world's mathematicians. It is the desire of this body to know exactly what is done today in the teaching of mathematics in all of the important countries of the world; to know if any countries are accomplishing exceptional results in a given time and under relatively the same conditions as obtain in other countries; to know how teachers are prepared to give instruction in mathematics in the high schools, for example, in France, and Italy, and Denmark; to know what general means are taken to give instruction in the subject in the universities of England, of Germany, and of Russia; to know the progress that is being made in answering the vext question of the best mathematics for the special types of school that are springing up all over this country as well as elsewhere, and to learn from others the effect of abandoning the rigid mathematics of the old school in favor of what many feel to be the sentimental mathematics that is now so often advocated. There is also the question of examinations that needs to be considered. What are the results of England's rigid system? of the examinations which France imposes upon those who would enter schools like the Ecole Normale Supérieure? of the college entrance examinations in our eastern states, as compared with the certification system? It is true that there is no unfailing unit of measure for results of this character, but after all some scientific results are obtainable, and even if they do not settle the issue, the world of mathematics will be benefited by knowing what they are. We have also certain influences tending to make better teachers of mathematics

that are somewhat peculiar to this country, and these it will be of interest to other countries to know. Such are some of our teachers' associations, our teachers' institutes, our systems of state inspection and supervision, some of our scientific societies and publications, and the often unappreciated but none the less valuable influence of publishers and their agents, an influence that is unknown in many parts of the world.

In order to set forth more clearly the exact purpose of the Commission, the following extract is made from the first preliminary report: The general plan of the work consists of two parts. Of these the first relates to the present state of the work and to the methods of mathematical instruction. Under this general topic are the following sections:

Section I. THE VARIOUS TYPES OF SCHOOLS.—In this first chapter will be given a concise exposition of the various public institutions of learning in which mathematical instruction is given and the aim of each school will be indicated. Schools for girls will be included.

The institutions will be distributed according to the following classification:

(a) Primary schools, lower and higher.

(b) Middle schools or higher secondary (lycées, German Gymnasiums and Realschulen, etc.).

(c) Middle professional schools (Technicums, etc.).

(d) Normal schools of the various grades (seminaries for teachers, "teachers' colleges," etc.).

(e) Higher institutions (universities and technical schools).

It is desirable that this exposition be accompanied by a schematic table giving a general view and making evident the succession and correspondence between the diverse establishments and indicating also the average age of the students.

Section II. AIM OF THE MATHEMATICAL INSTRUCTION AND OF THE SEPARATE BRANCHES.—This question will be studied for the various types of institutions mentioned above, taking into account, wherever necessary, applied mathematics, notably mechanics.

Not only does the aim of mathematical instruction vary necessarily in different institutions, but it has undergone some

transformations in the course of the last decade. It may be purely formal, or formal but taking account of intuition; it may also lay stress on logical development and the utilitarian side simultaneously, or else regard only the practical. On the other hand, the development of the memory may be the principal aim, or contrariwise the development of the mathematical faculties.

What are the branches of mathematics taught in the different types of schools? The time allotted to the branches should be indicated and the extent of the program. To what extent is attention paid to correlation among the mathematical branches and, if there is occasion, the correlation between these branches and applied mathematics (including mechanics) and physics?

Section III. The Examinations.—It is unquestionable that the system of examinations has a great influence on the method of instruction. The characteristics of the examinations in each category of schools should be concisely indicated, and particularly those which lead to "certificates of maturity," to "degrees," etc., and the examinations of candidates for teaching.

Section IV. The Methods of Teaching.—What are the methods used in the various institutions, from the primary schools to the higher institutions? Material of instruction; mathematical models; use of manuals, textbooks, collections of problems. Theoretical problems; problems taken from the applied sciences. Practical work.

Section V. Preparation of Candidates for Teaching.—Here again are to be included the diverse types of schools, and there are to be indicated the requirements demanded by the school authorities: (a) with regard to theoretical preparation; (b) to professional preparation.

The second part relates to the modern tendencies in the teaching of mathematics, and is subdivided into the following sections:

Section I. Modern Ideas Concerning School Organization.—Reforms in studies. New types of schools. The question of coeducation of the two sexes.

Section II. Modern Tendencies Concerning the Aim of Instruction and of the Branches of Studies.

Aim of instruction.—New branches or new chapters to substitute for useless topics of study in the course, or those of secondary interest, but retained by pure tradition or by routine.

Section III. Examinations.—Projects for the transformation of the system of examinations or for their complete suppression.

Section IV. The Methods of Teaching.—Modern ideas concerning methods at different stages of instruction and in different types of schools. Correlation among mathematical branches. Relation between mathematics and other branches. Problems and practical applications; models and instruments. The use of manuals.

Section V. The Preparation of Teachers.—What are the conditions which a rational preparation of candidates for teaching should fulfil? How are the theoretic courses and the practical preparation to be organized?

The progress of teaching depends directly on the preparation of the teachers. This is a question of fundamental importance. The studies and the exigencies vary necessarily from one country to another; they depend much on the number of candidates and the facilities at hand in regard to education. Consequently the committee believes that it will be useful to take account of the reforms or the projects for reform which are now being considered with a view to bringing the training of teachers into conformity with modern conditions, not only for the personnel of primary and secondary schools but also for the university.

This inquiry should touch notably:

(a) The mathematical work required of candidates.

(b) Their introduction to scientific research.

(c) The best method of presenting theoretical and practical pedagogy (considered as the science of education).

(d) The question of the sex of the teacher in different school years.

(e) Questions concerning, for example, the time to be de-

voted to the history of mathematics, the history of the teaching of mathematics, the recreational side of mathematics, and general literature touching mathematical education. . . .

Emerson's oft-quoted remark that every man is my master in something and in that I may learn of him, is, it need hardly be said, eminently true in education, and in particular is it true in the teaching of mathematics. Our colleges have not much cause for over-contentment in the progress made in this subject in the past generation, and aside from the fact that our high school teachers are better educated than formerly, we have not progressed in any very marked degree in the development of education in the mathematical subjects in these institutions. It is well, therefore, that we heartily join the rest of the world in seeing just what we are all doing, not for the sake of attaining to uniformity, but for the sake of doing better the work that makes for our diversity. Uniformity is both unattainable and undesirable, but it is most desirable to know the best that our colleagues elsewhere are accomplishing.

The members of the Commission include some men who are sure to accomplish noteworthy results in this work. For many years Professor Klein has stood among the great mathematicians of the world, and of late he has been a prime mover in educational progress in Germany. With him are actively associated in this movement men like Professors Stäckel, Gutzmer, Schotten, Treutlein, and Schimmack, all of whom stand among the leaders in German mathematics or education. In Austria, Professors Czuber, Suppantschitsch, and Wirtinger are among the most active workers, and each one is well known wherever the teaching and progress of mathematics is understood. In France, Saint-Germain, Bourlet, Appell, Tannery, André, Borel, and Laisant are a few among the number who are carrying on the work, not to speak of others equally well known who are acting in an advisory capacity. In Italy, Castelnuovo, Enriques, and Scorza are three of the best known men in the field, and they form the Italian Commission. So it is with the various other countries; each is represented by men who are recognized as

leaders in their respective departments, and the result is an international body of great strength and of sound judgment. The work has already begun, not always in the same way in all countries, but always with the same purpose. The conditions not being identical, the plan of attack varies with the different countries, but everywhere the attack is being made with earnestness and with promise of good results.

In one respect the foreign countries have an advantage over us. In most of them a central bureau of education is more generously treated by the government than is the case in the United States, and therefore government aid is more readily secured. Germany, for example, at once appropriated ten thousand marks for carrying on the investigation in that country. Hungary followed with an appropriation of six thousand crowns. Other governments at once paid their subscriptions to the general fund and agreed to meet the expenses of their delegates, and in no case, so far as known, has there been a lack of financial and educational support of the movement abroad. In the United States the Commissioners were aware from the first that government support of this kind was out of the question. The United States Commissioner of Education, Dr. Brown, has offered all of the assistance possible, and has the success of the work very greatly at heart, but the funds of the Bureau are limited and the uses to which they can be applied are strictly circumscribed. It therefore becomes necessary to look elsewhere for the financial means for carrying on a work in which our educational reputation is in no slight degree at stake, and in which we have a national pride. With fifteen large committees and nearly sixty subcommittees at work, and with a vast amount of labor still to be done, it seems proper to appeal to the generosity of those who are most interested in educational progress of the highest type. The committees are closely connected with university work, many of their members or the members of the advisory council are on university faculties; the movement is international, which means that other nations will hold our universities responsible for the high character of the investigation, and it therefore seems most fitting that friends

of the corporations that form the Association of American Universities should assist in raising the small amount that each of these institutions might be glad to contribute to such a cause. If this could be undertaken at once the success of the investigation in the United States, and of the educational contribution of our country to the international cause, would be assured.

DAVID EUGENE SMITH

TEACHERS COLLEGE
COLUMBIA UNIVERSITY

IX

THE AMERICAN COLLEGE UNDER FIRE [1]

Two distinct but converging lines of criticism appear to confuse the public mind as to the present position and value of the American college. The one proceeds from those serious-minded and constructive men, within college service or without it, who are jealous for the college and who are anxious promptly to meet and to solve each new problem as it arises, and so to keep the work of the college as nearly perfect as may be. The other is set in motion by the lapping waves of that presently popular tide whose yellow is, as the dictionaries have it, a token or symbol of jealousy, envy, melancholy. Probably thru inadvertence, the dictionaries omit to add the word ignorance.

This crude criticism of the baser sort may be first disposed of. Because ignorant, it is impertinent. Nevertheless, it reaches the public and measurably affects public opinion. One of the most important commercial discoveries of recent years is that, in our American democracy, attack upon the existing order and upon established institutions has a cash value. If it rises to unusual heights of shrill abuse, it is for the moment talked about, and, in so far, important. One thrifty, but hitherto unknown, person recently sold three articles to a confiding editor, the purport of which was that conspicuous teachers in American colleges did not teach their pupils things known not to be true, but did inculcate openness of mind and the habit of scientific inquiry. The business of the world went on without interruption.

Soon after, a presumably good bishop, turning for the moment from the faith once delivered unto the saints, announced

[1] Reprinted by permission from the New York *Evening Post*, September 25, 1909.

in stentorian tones that were heard by the newspapers from Maine to California, that he would as lief send a boy to hell as to one of the large American colleges. Within ten days the number of aspiring candidates for the alternative resting place had increased, we were told, by many hundred. At the Denver meeting of the National Education Association, in July last, one speaker was reported as saying that the colleges of the country were failures, that they exerted a ruinous influence on the secondary schools, and that they constantly did other sad and bad things. And so it goes, through a tiresome round of ignorance, misunderstanding, half-truth, malevolence, and sheer sensationalism. It is within the mark to say that from attacks of this kind no college teacher or college administrator has yet got any helpful suggestion whatever.

The line of criticism first named is, however, quite a different matter. It springs from what Matthew Arnold would have called the disinterested endeavor to learn and propagate the best that is known and thought about colleges and their work. It is in high degree helpful to the man at the wheel and it is usually constructive.

The truth of the matter appears to be that our time is one of transition and rapid change, and that the college finds itself perplexed and hard-put to keep adjusted both to its own standards and ideals and to the shifting social and educational tastes of the people. There are some things that the college can not do without stultification; there are other things that the college must do to live: these are the upper and the nether millstones. The advent of the American university, since 1876, has troubled the college not a little. The insistent and emphatic demand for vocational training has troubled the college still more. The college which is a member of a university—as at Columbia, Harvard, Yale, Cornell—finds its troubles taking one form; the separate college—as Williams, Amherst, Haverford, Hamilton—finds them taking another. The danger to the college of the first type is absorption in the university; the danger to the college of the second type is destruction by the university. Either result would be calamitous. Both the college in the university and the separate

college are justified in making an energetic struggle for existence.

To ape the methods and the aims of a university, even with some success, is not, however, to justify the claim to be a good and useful college. To travel on all fours with the vocational schools may avert extinction as an institution, but it is not the way to continue to exist as a college.

To put the matter bluntly, whenever there are no longer youths who are able and willing to spend a few years in laying the foundation for happy, useful, intelligent manhood by opening the mind, refining the manners, firing the imagination, and strengthening the morals thru living in a community of contemporaries, in contact with noble teachers and guides in the liberal arts and sciences, then the colleges may close their doors or allow themselves to be absorbed or destroyed by universities and vocational schools. At the same time a large part of the light of our nation's life will go out. But until that time comes—and may it not be earlier than the Greek Kalends!—the college has a place, a duty, and an opportunity.

Not all of those who tell the colleges what to do know their limitations and difficulties. In almost every case funds are lacking, even for the most obvious and necessary improvements. Moreover, colleges can not safely move singly and alone in policies that touch the public interest at many points. Much action in education must be concerted and harmonious to be effective. The men for any given job are not always easy to find, and, if found, they are not always easy to get. Large and complex bodies necessarily move slowly, and colleges move slowly, not only because they are, in a sense, large and complex, but because their task of training generous and enthusiastic youth to share in the intellectual life and the moral aspirations of the race is pretty well understood, has been pretty well understood for generations, and has not been made to appear in any very new light of late by the shifting fancies of superficial critics of colleges, of the intellectual life, and the moral aspirations of the race.

The most vexing problems of the college center about three phases of its work: its relations with the secondary schools, its instruction, and its discipline.

I. The relations of the college to the secondary schools are more satisfactory now than ever before, and are steadily becoming better still. The College Entrance Examination Board, now ten years old, has smoothed out many rough places, and has gained the strength and prestige to accomplish much more. Its membership now includes (I believe) every college that prescribes examinations for admission to the freshman class, except Princeton. It has standardized those examinations and brought order into a region once ruled by chaos. It has made it possible for secondary school teachers to have a share in formulating, conducting, and rating the examinations of pupils passing from school to college. It has quietly, but constantly, held before colleges the folly of insisting upon idiosyncrasies in college admission tests, and the wisdom of their agreeing together to state one and the same thing in one and the same way. The academic mind is peculiar, but not impregnable, and it is coming round in regard to all these matters.

The statements of the standard college admission requirements in English, French, and German have been much improved of late years, and that of physics has recently been made over in order to satisfy the demonstrated needs of the secondary schools. The statement of the requirement in history, although framed upon the recommendation of seven eminent men, is constantly criticized, and Mr. Frederick M. DeForest, in an article printed in the September number of the EDUCATIONAL REVIEW, states with conclusive force the bad effects of the present college entrance requirements in Latin. This last-named situation is so bad that steps are already being taken to improve it. In this respect, therefore, most colleges are doing what they can to meet the views of their wise and helpful critics.

II. College instruction has been having troubles of its own for two decades or more. Paradoxical as it may seem, the great enemy of good college teaching is the new, highly-

specialized scholarship. The colleges are plentifully supplied with distinguished men to whom the education of the young is either a lost art or a negligible quantity. Celestial mechanics or comparative philology or physical chemistry or medieval history or experimental psychology is the thing. These men are incomparable as guides in laboratory or seminar for the mature and self-knowing student; they are hopelessly at sea before the problem of a normal boy of seventeen or eighteen, fresh from school, who comes to college to get something of what wise men once thought it not silly to call general culture. The present-day college student is berated on every side because he prefers so many other things to scholarship. Surely, we should all be glad if he cared more for scholarship; but is he alone to blame? Is he being taught or lectured at? Is he being led or driven? Is he brought understandingly and with ample introductory explanation into a new subject, or is he hurled into it and left to flounder helplessly until, not comprehending, he turns from it in disgust? Is a prepared sequence of study, based upon his individual tastes and capacity, suggested and explained to him, or is he compelled to do something that he neither cares for nor understands, or permitted to do anything he chooses whether he cares for it and understands it or not?

The answers to these questions are, unfortunately, easy and obvious. That the present-day college student is not wholly careless of scholarship is shown by the zeal with which he pursues it when it is united with personality. College men of an older generation never tire of talking of Anderson of Rochester, of Wayland of Brown, of Hopkins of Williams, of Seelye of Amherst, of McCosh of Princeton, of Anthon and Lieber of Columbia, of Norton and Shaler of Harvard, of Hadley and Sumner of Yale, of Cooper of Rutgers, of North of Hamilton, of Canfield of Kansas, and a score more, *clara et venerabilia nomina.* Just so the student of today seeks strong and noble personalities among his teachers, is guided by them, and responds quickly to their stimulus, when he can find them. Of such, one may be permitted to mention George R. Carpenter of Columbia and Garman of Amherst

among the sadly early dead, and Fine of Princeton and King of Oberlin among the living. Rich personality and human sympathy and insight plus scholarship, is the formula for a great college teacher. Such an one will never lack for earnest students in large numbers, whether his courses be prescribed or elective. The problem of college instruction is solved when men of this type, even if their achievements and distinction be considerably less than the greatest, are found and put at work in the college service.

III. College discipline is feeling its way toward a new and higher effectiveness, based upon the community feeling and cooperation between teachers and taught in accomplishing the aims and purposes for which colleges exist. Rules of behavior are giving place to ideals of conduct. Student opinion, trusted with responsibility for the good name of a college, is showing itself strong and willing to protect it. Many things happen that one could wish otherwise, but college students are human beings, and immature human beings at that. Youthful exuberance is not hard to distinguish from moral obliquity. The crude and cruel practises of hazing, while still heard of occasionally, are much less frequent than they once were, and it is the improved tone of student opinion, even more than the strict prohibitions of college authorities, that is influential in bringing this about. The morals of undergraduates, while by no means beyond criticism or improvement, are far better than those of the world at large. No parent need worry unduly over the college life of any well brought-up son, unless, indeed, he is so lacking in sense as to provide the boy with a large allowance, a valet, a bulldog, and an automobile; but in that case, the parent must not blame the college. He is conspiring to the best of his poor, philistine ability against his son's getting any good out of college life, and is helping the boy get ready for a life of useless, perhaps vicious self-indulgence.

Good college teaching and good college discipline ought to work together to develop a pleasure and a satisfaction in intellectual labor for its own sake. To gain the habit of working with keen pleasure in one's work is an inestimable blessing,

and to train its students in that habit is a high purpose of the college.

Now and again some one criticizes the college because it does not fit men for practical life—meaning usually sweeping out an office, or using interest and discount tables, or selling dry goods. Fortunately, the college does not have any one of these or other like honorable occupations in mind when it plans its program of studies. It is concerned with the much more practical and useful task of forming men; real men, with the habits and interests of real men. That they know how to do this, and succeed in doing it, is amply proved by the history of a century. The list of rulers of England and of her colonies and dependencies reads like a roll of honor of the graduates of the colleges of Oxford and Cambridge. The history of American achievement in government, in commerce, in industry, and in finance would be amazingly curtailed if the work of college-bred men were cut out of it. At this moment Yale has a son in the Presidency of the United States, Brown a son in the Governorship of the State of New York, and Princeton a son in the mayor's chair in New York City. The graduates of the State universities are ruling the States of the West and are leading their development in every field.

The American college is under fire, no doubt. Well-directed, intelligent firing will do it good. It is far from perfect, but it knows its job and is working at it with the skill born of long and successful experience.

NICHOLAS MURRAY BUTLER

COLUMBIA UNIVERSITY

X

CURRENT EDUCATIONAL PUBLICATIONS [1]

Amante, Bruto. Nuovo codice scolastico vigente; leggi, decreti, regolamenti e programmi dal 1859 al 1909. ed. 2. Roma, Presso l'autore, 1909. 1559p. 4°.

American historical association. Committee of eight. The study of history in the elementary schools. Report to the Association. New York, Charles Scribner's sons, 1909. 141p. 8°.

Contains topical outlines of history courses for the eight grades, with material on the preparation of the teacher and method. This report, which is the product of a concerted effort to emerge from the hopeless diversity that characterizes our history teaching, has reached its present form thru much consideration and discussion.

Argentine Republic. Consejo nacional de educacion. La jura de la bandera; crónica de las ceremonias realizadas en los xiv distritos escolares de la capital, 8 de Julio de 1909. Buenos Aires, Est. tipografico El Comercio, 1909. 74p. 8°.

Bailey, Liberty Hyde. The training of farmers. New York, The Century co., 1909. 263p. 12°.

Barry, William Francis. The hygiene of the schoolroom. Rev. ed. New York, Boston [etc.] Silver, Burdett and company [1909] 195p. 12°.

Brown, Elmer Ellsworth. American standards in education and the world-standard. [New York, 1909] 24p. 8°.

Address of the vice-president and chairman of section L of the American association for the advancement of science, Baltimore, 1908. Reprinted from Science, n.s., 30: 418-427, October 1, 1909.

Cleveland. Board of education. The three R's; improvement in them; place in present course of study. Cleveland, Board of Education, 1909. 30p. 8°.

Report of superintendent of schools, W. H. Elson, to the Board of education.

Conference for education in Texas. Educational commission. First preliminary report. Austin, Tex., Austin printing company, 1909. 16p. 8°. Its Bulletin, No. 13.

Cook, George B., *State superintendent of public instruction.* Yearbook of school improvement in Arkansas. [Little Rock, 1909] 96p. 8°.

Curtis, Elnora Whitman. Out-door schools. [Worcester, Mass., 1909] 169-194p. 8°.

Reprinted from the Pedagogical seminary, 16: 169-194, June 1909.

[1] Compiled by John D. Wolcott, Acting Librarian of the United States Bureau of Education, to which books and pamphlets should be sent for inclusion in this record.

Davenport, Eugene. Education for efficiency; a discussion of certain phases of the problem of universal education, with special reference to academic ideals and methods. Boston, D. C. Heath & co., 1909. 184p. 12°.

Advocates industrial and agricultural training in the common schools.

Dufestel, L. Hygiène scolaire. Paris, O. Doin et fils, 1909. 417p. 12°.

Earhart, Lida B. Teaching children to study. Boston, New York and Chicago, Houghton Mifflin company [1909] xi, 181p. 12°. (Riverside educational monographs, ed. by H. Suzzallo)

Elford, Percy *and* **Heaton, Samuel.** Practical school gardening. Oxford, Clarendon press, 1909. 224p. 8°.

Felkin, F. W. From Gower street to Frognal; a short history of University college school from 1830 to 1907. London, Arnold Fairbairns & company ltd., 1909. 40p. 8°.

Firth, Charles Harding. The faculties and their powers, a contribution to the history of university organization. Oxford, B. H. Blackwell; [etc., etc.] 1909. 43p. 8°.

Hollembeak, Jessie Ryan. A history of the public schools of Stockton, California. [Stockton, Board of education] 1909. 173p. 12°.

Prepared for the Alaska-Yukon-Pacific exposition.

Illinois. Educational commission. Final report to the forty-sixth general assembly of the state. Springfield, Ill., Illinois state journal co., 1909. 272p. 8°.

Contains: 1. Recommendations of the Commission, p. 9-14. 2. The superintendent of public instruction, p. 15-30. 3. The state board of education, p. 31-54. 4. The county superintendent, p. 55-86. 5. County boards of education, p. 87-97. 6. Units of school organization, p. 98-116. 7. Township organization, p. 117-46. 8. The certification of teachers, p. 147-85. 9. County teachers' institutes, p. 186-213. 10. The purpose and value of the county teachers' institute, p. 214-34. 11. Salaries of teachers, p. 235-46. 12. Minimum salary legislation, p. 247-59.
Bibliographical references follow numbers 2, 4, 5, 8, 10, 12.

Ivins, Lester S. Agriculture in the public schools; a handbook for teachers. Lebanon, O., March brothers, 1909. 156p. 12°.

Johnson, R. Brimley. The Cambridge colleges. London, T. Werner Laurie [n.d.] 125p. 32°.

Kindermann, Carl. Die führer im modernen völkerleben, ihr grundcharakter, ihre erziehung, ihre aufgaben. Stuttgart, E. Ulmer [1909] 348p. 8°.

Lewis, Thomas Hamilton. Public education in Maryland; a study of its finances. Annapolis, Md., State board of education, 1909. 16p. 8°. (Maryland. Dept. of education. Quarterly bulletin, no. 1)

McMurry, Frank M. How to study and teaching how to study. Boston, New York and Chicago, Houghton Mifflin company, 1909. 324p. 8°.

An illuminating treatment of an important but hitherto neglected phase of education.

Maennel, B. Auxiliary education, the training of backward children; translated by Emma Sylvester. New York, Doubleday, Page & company, 1909. 267p. 8°.

A new translation of this standard work.

New England association of school superintendents. A report on the physical welfare of the public school child. May, 1909. Hartford, Conn., R. S. Peck & co., 1909. 43p. 8°.

Presented by a working committee consisting of Arthur Deerin Call, Hartford, chairman; Paul H. Hanus, Harvard university; Walter A. Ranger and Walter H. Small, Providence; Henry D. Hervey, Malden.

New York (State) Department of labor. 26th Annual report of the Bureau of labor statistics for the year ended Sept. 30, 1908. Part 1, Industrial training; a report on conditions in New York State, prepared by Charles R. Richards. Albany, State dept. of labor, 1909. 394p. 8°.

CONTENTS.—General summary.—Conditions of entrance and advancement in individual industries.—Attitude of labor unions toward industrial and trade schools.—Comments by employers on industrial training.—Rules and agreements of labor unions in regard to apprentices and helpers.—Laws of New York State relating to child labor, compulsory education, apprenticeship, and industrial education.—Institutions offering courses in industrial training in New York State.—Selected bibliography on industrial education.

O'Shea, Michael V. Social development and education. Boston, New York [etc.] Houghton Mifflin company [1909] xiv, 561p. 8°.

Part 1 attempts to describe and explain the typical attitudes which the child tends to assume towards the persons with whom he comes into contact in daily life, while Part 2 undertakes to outline a plan and method of education designed to make the individual socially efficient.

Palmer, George Herbert. Ethical and moral instruction in schools. Boston, New York [etc.] Houghton Mifflin company [1909] 54p. 12°. (Riverside educational monographs, ed. by H. Suzzallo)

Pruneda, Alfonso. Organization of the public school hygiene service in the federal district of Mexico. Paper presented to the American public health association, 37th annual meeting, Richmond, Va. Mexico, Tipografia economica, 1909. 22p. 7 pl. 8°.

Rowe, Stuart H. Habit-formation and the science of teaching. New York [etc.] Longmans, Green, and co., 1909. 308p. 8°.

"The design of this book is twofold: first, to present in scientific form the relation of habit to education; and secondly, to treat the subject of habit-formation in a way that will render practical assistance to the teacher, the supervisor, the parent, and the clergyman."—Pref. Bibliography, p. 287-300.

Taylor, William James. A syllabus of the history of education. Boston, D. C. Heath & co., 1909. 147p. 12°.

XI

DISCUSSION

FOOTBALL: A SPORT FOR GENTLEMEN AND A MORAL AGENT

To the Editor of the EDUCATIONAL REVIEW:

May a parent of a son soon to enter college ask you to print, for purposes of record, these following cuttings from responsible newspapers as a comment upon the outrageous utterances of demoralized and demoralizing college presidents and professors who, before cheering crowds of young barbarians, defend football as a sport for gentlemen and as a moral agent? S. E. D.

[From the New York *Herald*, October 31, 1909.]

FIGHTS ARE PLENTY ON FRANKLIN FIELD

PENNSYLVANIA TROUNCES INDIANS 29 TO 6 IN ROUGH AND TUMBLE VARIETY OF FOOTBALL

POLICE ARE CALLED TO AID

Waseuka, Indian Captain, Put Off for Slugging and Glenn Warner Sent from Side Lines

PHILADELPHIA, Pa., Saturday.—There were all sorts of excitement at Franklin Field today before Pennsylvania smothered the Indians 29 to 6. . . . Glenn Warner, the Indian coach, was ordered from the side lines to the bench and kept there by a big policeman. The Indians' captain, Waseuka, was sent from the field for slugging, and Fretz, of Pennsylvania, was also put out.

Incidentally there were several individual fist fights and a general free fight which for a time threatened to involve all the players and some of those on the side lines. . . .

The Indians were not only outplayed and outwitted, but they were outgamed. The near riot occurred after Penn had scored twice. Miller started on one of his famous runs, and a desperate attempt was made to get him. Near the side lines he made a lunge at a tackler and knocked the Indian down, though a second redskin got him and a third tried to avenge his team mate, who lay still on the ground, by jumping

on Miller. Several Quaker players ran to Miller's assistance and a free fight began. The substitutes left the bench to take a hand in the mêlée. Several policemen ran on the field, and with the aid of a few cool headed players the combatants were forced apart.

ORDERED OFF FIELD

Back on the field, however, Fretz and Waseuka started all over again, and Edwards promptly ordered both men from the game. Waseuka was reluctant to go, and was assisted by "Bill" Edwards. Here Glenn Warner took a hand and had a few words with the big umpire, which resulted in Edwards ordering him from the side lines. Warner refused to go, and Edwards called on the police to force the former Cornell star from the field.

Bemis Pierce, another Indian coach, who backed up Warner too strenuously, was also ordered from the side lines. Later Edwards discovered Pierce seated among the band and stopped the game until the Indian left the field.

NO HOPE FOR MIDSHIPMAN

PHYSICIANS DARE NOT OPERATE ON FOOTBALL PLAYER HURT TWO WEEKS AGO

ANNAPOLIS, Md.—Midshipman Earl D. Wilson, quarterback of the Naval Academy team, was resting quietly this evening, though no hopes are entertained for his recovery. He was injured two weeks ago today in the game with Villanova, when he suffered a fracture of the fifth vertebra, and his condition has been such that physicians have not dared to operate upon him. His injury is, apparently, similar to that suffered today by Cadet Byrne in the West Point-Harvard game.

CHARGE DEATH TO FOOTBALL

Clinton Brown Kissam, a boy of fifteen, who was a student at the Mackenzie School at Tarrytown, died Friday night at the Dobbs Ferry Hospital from an injury to the spine resulting from excessive exercise. He was a member of one of the football teams of the school, and it is said his back was hurt in a game a week ago.

NINE-YEAR RECORD OF FOOTBALL CASUALITIES

	Killed	Injured
1909 (thus far)	2	10
1908	10	272
1907	15	166
1906	14	160
1905	24	200

	Killed	Injured
1904	14	296
1903	14	63
1902	15	106
1901	7	74

One of the injured in the season of this year, which has hardly begun, is Earl D. Wilson, quarterback of the team of the Naval Academy at Annapolis, for whose recovery no hope is entertained.

[From the New York *Sun*, October 31, 1909]

NECK BROKEN AT FOOTBALL

BYRNE OF ARMY TEAM HAS VERTEBRA FRACTURED

In Game Against Harvard at West Point Cadet Left Tackle is Caught in Scrimmage When Second Half is Nearly Over—Game Goes No Further.

WEST POINT, Oct. 30.—Eugene A. Byrne, left tackle of the Army football team, was severely hurt here this afternoon in the football game with the team from Harvard University. The sixth cervical vertebra, it is reported, was fractured. A late report was that his respiratory nerves were partly paralyzed. He regained consciousness some hours after the hurt and was said to be slightly improved. His recovery still is in doubt.

. . . . . .

A forward pass had gained ten yards, carrying the ball into West Point territory, and rushing tactics were taken up.

There came a sharp, compact plunge against the left side of West Point's line in which Minot, the Harvard fullback, carried the ball. The play came at Byrne and he dived to stop it. From accounts given by those who were close enough to the tangle of men while the scrimmage was on Byrne missed the tackle and immediately afterward was down with the mass.

When the scrimmage untangled Byrne was stretched out on the ground. He couldn't rise when his fellow players went to his assistance, and Dr. Hanna of the army went out on the field to help him.

"I can't move," murmured the prostrate player. That was all he said, for in another moment he had sunk into unconsciousness. Other army doctors hurried out to take part in reviving the injured man, as well as Dr. Nicholls of Harvard, who has had lots of experience on the football field.

Byrne, it was found, was wholly paralyzed. The doctors set about inducing deeper respiration, as it was seen that the player was just breathing and little more. Dr. Hanna worked the player's arms back and forth, but with no encouraging response from the patient. Those in the stands could see that something serious had happened, for Byrne's face became gray as ashes. . . .

The spectators filed slowly out of the stands and down to the station. They had seen the worst accident that ever took place on the West Point football field and felt as if they had seen a tragedy. The report spread on the train coming to New York that Byrne was dead.

To a spectator who inquired about the injured cadet as he was being carried off the field one of the doctors replied that there was hope, that the patient seemed to be regaining consciousness. "We cannot tell at this time whether the injury will prove fatal or not," said Dr. Hanna.

GOPHERS WIN IN EASY STYLE

Stagg's Football Men Fail to Show Much Against Minnesota

Minneapolis, Oct. 30.—Minnesota defeated Chicago on Northrop Field today, 30 to 6. The Gophers outclassed Stagg's pupils in every point of the game. . . . Toward the end of the second half while running back a punt McGovern hurt his collarbone and had to be taken from the game.

PENN FRESH SCORE SIX POINTS

Philadelphia, Oct. 30.—In a loosely played game the Pennsylvania freshmen defeated the Syracuse freshmen this afternoon 6 to 0. . . . Mercer, the Pennsylvania star, had to retire from the game early in the first half owing to an injured knee and with his withdrawal the team lost much of its fighting spirit.

[From the New York *Times*, October 31, 1909]

SKULL FRACTURED IN FOOTBALL

Philadelphia, Oct. 30.—As the result of injuries received in a football game here this afternoon Michael Burke, 24 years old, is in a critical condition at a hospital. Burke was fullback on one of two scrub teams of the Pennsylvania Railroad Young Men's Christian Association and received a fracture of the skull in a scrimmage.

[From the New York *Sun*, November 1, 1909]

THREE FOOTBALL PLAYERS KILLED

Cadet Byrne Dies of His Broken Neck

Fatal Accidents Also in Games in Philadelphia and Kansas City—West Point Gives Up Football for the Season—Game Not Likely to be Forbidden

West Point, Oct. 31.—Cadet Eugene Byrne, who was injured in the Harvard-West Point football game yesterday, died at 6.35 o'clock this morning. From the time he was taken from the field until his death the

doctors kept Byrne alive by artificial respiration. The injury was diagnosed as a fracture of the second or third cervical vertebra, and the respiratory nerves were completely paralyzed. The cadet regained consciousness in the early hours of the morning and asked for a drink, but soon relapsed into unconsciousness from which he never rallied.

. . . . . .

PHILADELPHIA, Oct. 31.—As a result of injuries received in a football game between Medico-Chi and the Philadelphia College of Pharmacy at the Pennsylvania R. R. Y. M. C. A. grounds, Michael Burke died in the Presbyterian Hospital early this morning.

Burke was playing tackle on the Medico-Chi team, and he was thrown heavily to the ground. He was carried off the field unconscious and removed to the hospital, where it was found that his skull was fractured.

. . . . . .

KANSAS CITY, Oct. 31.—Roy Spybuck, 19 years old, an Indian football player of the second eleven of the Haskell School, died in St. Joseph's Hospital this afternoon of injuries received in a game at Buckner, Mo., yesterday afternoon. He played right tackle. Spybuck was out of the play when the ball was passed and when a Buckner man carrying the ball was tackled the Haskell tackle dived at the pile of men. He slipped and landed on his head. He was unconscious when taken from the field.

XII

REVIEWS

The study of nature—By SAMUEL C. SCHMUCKER. Philadelphia: J. B. Lippincott Co., 1908. 315 p. $1.25.

The study of nature is a book on nature-study for elementary schools, and aims to give the much needed help to teachers of this relatively new subject. Also, the book may well serve as a textbook for nature-study classes in training schools for teachers. The first and second chapters deal with the theory of nature-study and are in line with the best recent conceptions of the aims and scope of the subject. The third chapter, dealing with the real purpose of nature-study, emphasizes "the enrichment of life, the establishment of firm character, and a reverent attitude towards the great Power about us." The critical attitude which many teachers of science will take concerning such a statement of the purposes of nature-study is apparently appreciated by the author, for he hastens to say that, "Many there are who will say that the three purposes which are held before the teacher in this chapter are intangible and illusory; that they may be full of fine aspiration, but that they lack practicability." Following the third chapter are several very readable and practical chapters on the teacher's preparation, topics for study, and the management of nature-study in the schoolroom.

Part II has several excellent and helpful chapters on materials for nature-study. With the exception of a chapter on the heavens, only plants and animals are considered. This emphasis upon the biological aspect of nature-study is still most common in public schools, but the signs of the times indicate that physical nature-study will soon begin to come into its own. In a later outline given in this book there are frequent references to topics in physical nature-study.

The last section of the book deals with a course of study

arranged by grades and seasons. In general this is very similar to courses which other authors have planned. The addition of notes will make it vastly more useful than a mere outline.

It should be noted that, in many cases where interpretations of adaptation of plants and animals are concerned, the author's statements are out of line with the most recent critical biologists. He shows a tendency to ascribe a use or a purpose for everything rather than frankly stating that some structures may, from our human standpoint, appear to have a use which is not known to exist. Instances of such cases will be found in paragraphs 285, 286, and 337. Prickles on chestnut burs certainly appear defensive; but the romance of this interpretation is somewhat disturbed by the common observation that the burs open and discharge their nuts as soon as they are ripe and attractive to any self-respecting rodent. Moreover, the prickles are soft and not at all formidable weapons of defense during the long growing season when, according to the romantic theory, they should be serving as defending organs. There is no positive evidence that the prickles on normal burs ever serve any useful purpose in the line of protection against gnawing animals; and there is no justification for the assumption that because prickles and barbs mean defense against enemies, as viewed from the human standpoint, that therefore they must mean the same in the plant world. We must have critical observation applied to each case, rather than the application of a general theory; and the result will often be a confession of ignorance. The chestnut-bur case is one of thousands where the temptation is, for teachers of elementary-school nature-study and high-school biology, to jump to general conclusions without consideration of the observable facts. In teaching nature-study on a basis of observation the teacher needs to keep in mind Agassiz's saying, "Study to translate what actually exists; be courageous enough to say, 'I do not know,'" for many times lessons may lead into unsolved problems. A valuable part of the pupils' science training will be in learning that there are more things in heaven and earth than have been explained by modern science.

This advice is especially applicable when dealing with many of the fascinating cases of structural modifications which suggest adaptation to specific use.

This new book will do the greatest service in helping teachers and students to get acquainted with some of the most interesting facts concerning biological nature-study. It is especially important because the author has gleaned and brought together into one volume information which is so widely scattered in the popular natural history books as to be inaccessible to most teachers.

M. A. BIGELOW

TEACHERS COLLEGE
COLUMBIA UNIVERSITY

The movement of mathematical thought and the adaptation of the newer mathematical theory to the needs of instruction are well illustrated in *A treatise on the differential geometry of curves and surfaces,* by Professor L. P. Eisenhart of Princeton. The student of this work must possess a knowledge of the calculus, of differential equations, and of the elements of tri-dimensional coordinate geometry. We welcome a scholarly treatise of this kind for its indication that we are building up in America a serious body of advanced mathematical students in the universities. (Boston: Ginn & Co., 1909. 474 p. $4.50.)

Several teachers of English composition in the Sheffield Scientific School have united in the preparation of a book, entitled *English composition in theory and practice.* Their book presents some novel features, and brings together an exceptional chosen amount of illustrative material, much of it from contemporary writers, and, therefore, particularly useful for the student of today. (New York: The Macmillan Company, 1909. 402 p. $1.25.)

The latest number of the Riverside Educational Monographs is *Changing conceptions of education,* by Professor Cubberley of Stanford University. Professor Cubberley's succinct summary of the movement of educational thought will prove a useful guide to many of those students who are

perplexed by the attempt to reconcile the conflicting opinions of apparently equally competent authorities. (Boston: Houghton Mifflin Company, 1909. 72 p. 35 cents.)

We had occasion a few months ago to welcome a cheap and interesting edition of John Stuart Mill's *Autobiography*. We are now glad to welcome, with equal cordiality, a little volume entitled *Autobiography and selected essays by Huxley*. The book is edited by Miss Snell of Mt. Holyoke College, and, in addition to the autobiographical material, contains the well-known lecture on a piece of chalk and that on coral and coral reefs, together with that on two or three others. (Boston: Houghton Mifflin Company, 1909. 138 + xv p. 40 cents.)

The United States Bureau of Education, in its bulletin entitled *Teachers' professional library,* has rendered a distinct service in presenting a carefully selected list of 100 classified titles. Very few titles that one would expect to find in such a library are missing here. (Washington: Government Printing Office, 1909. 12 p.)

Superintendents and school officers generally will do well to obtain and study a copy of the pamphlet called *Preliminary report on simplified course of study,* submitted to the Board of Education at Cleveland, Ohio, by Superintendent Elson. It is a long time since any piece of school work of this kind has been done which seems to us so valuable and so suggestive. Superintendent Elson has rendered not only Cleveland, but the country, a service in making the studies upon which this report is based, and writing the report itself. (Cleveland, Ohio: Printed by the Board of Education, 1909. 40 p.)

Dr. Adam Leroy Jones shows that he is a good teacher in the selection and arrangement of his material in his new *Logic: inductive and deductive.* He has frankly made a textbook, and thereby has met a genuine need. It has been very difficult for earlier writers on logic to avoid the temptation to make critical contributions to epistemology. Dr. Jones has not done this, and his textbook will be all the more practical and useful in consequence. (New York: Henry Holt & Co., 1909. 304 p. $1.00 net.)

XIII

NOTES AND NEWS

William T. Harris

We hesitate to express our full sense of the world's loss in the death of William T. Harris lest we should not be understood. Dr. Harris died at his home in Providence, R. I., whither he had recently moved from Washington, on November 5 in the seventy-fifth year of his age. Perhaps one's first thought is that a dear and trusted friend has past away, or a distinguished former Commissioner of Education, or a great city superintendent of schools, or an author and editor of unusual distinction and influence. This would all be true, but it would be but a small part of the whole story. With the death of Dr. Harris, there came to its earthly end the activity of one of the greatest philosophical minds of modern times. Dr. Harris never held a formal academic post as a teacher of philosophy, but not all the academic teachers of philosophy that America has ever seen, taken together, began to equal him in power, in acumen, in profundity, or in skill in exposition. It is a misfortune for the general reputation of Dr. Harris that the fruits of his life-long philosophic thinking have not been put forth by him in systematic form, where they could stand, as they worthily might, by the side of the writings of a Kant or a Hegel. He chose rather to be a public teacher of the art of philosophic thinking, and to thousands and to tens of thousands of serious-minded Americans he long since became a leader and a guide. He illustrated, in countless ways and with amazing skill, the applications of the deepest philosophic insights of the race to the daily occupations and ambitions of modern men, as well as to the task of education, to the appreciation of art and of music, and to the interpretation of religion. Only those who were privileged to know Dr. Harris intimately and well can form any proper conception of the depth and breadth of his scholarship and of the habitual profundity of his thinking.

During the past two years, as his strength has slowly failed, he busied himself not less, but rather more, with philosophic problems. He had only a genial scorn for the fashionable and superficial philosophy of the day, and commented with grim humor upon the brilliant vagaries of Professor William James and the shallow infelicities of Mr. Schiller. Dr. Harris was so thoroly immersed in the current of the stream of historic thinking that he was not much concerned with the flotsam and jetsam of the moment. It is indeed a pity that so few can ever know how distinguished an ornament he was to his nation and his race.

Only a few days earlier, there died in Philadelphia at an advanced age, Mr. Henry C. Lea, for fifty years a tireless historical student and author of the first rank. Had Mr. Lea and Dr. Harris died within a few weeks of each other in England, in France, or in Germany, the whole people would have mourned the loss of their most brilliant representatives. In America, their passing from earth is indicated in a newspaper paragraph, and that is all. The boasted civilization of America has indeed very much yet to learn.

Meddlesome Legislation

We wish that legislators, teachers, and those miscellaneous busy-bodies who are so anxious to reform what they do not understand, would read, mark, learn, and inwardly digest these wise words from *The Dial:*

> That public education is the function of the State rather than of the municipality, is a principle that we have always maintained. The State is bound to see to it that thruout its area the means of education are provided upon as ample a scale as the general prosperity of the commonwealth makes advisable. The parsimony of the particular locality must not be permitted to keep its schools below the generally accepted standard, and the locality which would find it a real hardship to provide the needed support is entitled to assistance at the expense of more favored communities. On the other hand, the essentials being secured by law, the business of administration is distinctly a local affair, and it is in the last degree unwise for the State to prescribe matters of detail, or to interfere in questions that call for expert educational knowledge. The average legislature is about as well fitted to handle such delicate questions as it would be to regulate the circulation of books by public libraries or the scientific management of hospitals.

If we try to imagine the law of the State declaring that no library shall pay more than a dollar a volume for any of its books, or that the patients in every hospital shall be given fixt doses of certain specified drugs once a week, we shall have an exact parallel to the sort of educational legislation which is imposed with blithe and self-satisfied ignorance upon the hapless schools of many a town and city thruout this country. Thru the efforts of well-meaning people, whose judgment is as faulty as their intentions are good, a considerable number of our states have long been burdened with laws imposing upon their schools a cast-iron requirement concerning the teaching of physiology with reference to the use of alcohol and tobacco. The mischievous ingenuity of these laws is almost beyond belief. They demand that certain dogmas be enforced upon children with the most damnable iteration year after year,—dogmas that even a child's experience knows to be unsound; and they make it almost impossible for textbooks of physiology written in scientific language to be used in public schools. Men of science are practically unanimous in condemning these requirements, but the fanatics and doctrinaires have their way with the legislatures, and the voice of reason avails for nothing. Thus science is discredited, the canker of insincerity affects the teacher's work, and reasonable admonition against the evils of intemperance misses its opportunity altogether.

The Illinois legislature at its last session distinguished itself by imposing two singularly foolish laws upon the public schools of the State. One of these laws fixes a maximum price for every textbook used in the elementary schools; that is, it forbids the authorization of any textbook that the publishers do not offer to supply at or below the price thus specified. The other law imposes upon all the teachers in the State the obligation to devote a certain amount of time each week to the inculcation of ideas concerning the humane treatment of the lower animals.

Considering now the first of these amazing prescriptions, it is to be noted that the prices fixt are far below those at which the best books are obtainable. There is no reason to believe that the best books will be offered at the specified prices, for the simple reason that competition has already forced their prices to about as low a level as possible. Despite the "book trust" bogey that obsesses many minds, competition among school-book publishers has already made unreasonable prices a practical impossibility, and the margin of practicable reduction is a narrow one in most cases. The only possible effect of the law must then be to force the substitution of distinctly inferior books for many of those hitherto in use. Now to save the child a few cents in the price of one of his school books is as good an example of a penny-wise and pound-foolish policy as could well be imagined. It runs counter to the elementary truism that a textbook is a total, an instrument of precision, and that it has to be employed in one of the most delicate of the arts. A teacher who does not have the use of the best book available is like a railway engineer furnished with a cheap watch, a meteorological expert with a cheap barometer, or a violinist with a cheap fiddle. In these cases, the use of the inferior implement would be universally

recognized as an inconceivable folly; but in the case of the teacher, there seems to exist in many minds a notion that the implements he uses do not greatly matter. The making of textbooks is now comparable in refinement, in the nice fitting of means to ends, with the making of microscopes and chronometers, and the best of them would be cheap at almost any price. The injury done to education by debarring the best books from use is immeasurably greater than the benefit derived from the trifling economy that is thus effected.

Our second law, the one that makes humane instruction compulsory in all the Illinois schools, is a legislative "freak" which it is difficult to discuss seriously. All competent moralists are agreed that the one way *not* to be employed in developing the ethical instincts is the way of direct precept at stated periods. Yet in the present instance one particular sort of moral training is singled out, and is to be forced down the throats of all the young people at school in weekly doses of half-hour size (altho daily six-minute doses are considerately permitted as an alternative), and this process is to be continued *ad nauseam* from the kindergarten to the college. A plan better calculated to dull the moral consciousness and make the sympathies callous could hardly have been devised, and in the very name of the humanity which the misguided sponsors of this law seek to foster we enter our protest against it. Moreover, not content with securing its primary aim of universal instruction in this subject, the law makes the drastic requirement that the instruction shall be given by every teacher in every school supported by public taxation in the State, enforcing the requirement by the penalty of a heavy fine for non-compliance. This means that a weekly half-hour shall be devoted to the work in every elementary school, every high and normal school, and even (for the law makes no allowances) in the State University. It also makes teachers of all sorts, special teachers in all the high schools, teachers of singing and drawing and chemistry and gymnastics and geometry, amenable to the law and the penalty provided. Such a law, however unwise, is at least workable in an elementary school, where every teacher instructs the same group of children in a variety of subjects; but in its application to one of the higher schools it spells nothing less than chaos. Its absurdity is so manifest that we can not believe that it will long remain unrepealed, or at the very least unmodified in its terms. It is, in its existing form, a singularly vicious example of the sort of legislative tinkering with education that works mischief wherever it is attempted. And the worst of it is that it tends to bring into discredit one of the noblest objects of ethical endeavor.

Secondary Education in Agriculture

Mr. A. C. True, director of the office of Experiment Stations, has recently published, thru the Department of Agriculture, a paper full of information as to the present status of secondary education and agriculture in the United States. In 1897 there

were but ten agricultural high schools in the country, and the teaching of agriculture in normal schools and in public elementary schools had only just begun. Today there are reported to be sixty agricultural high schools, or agricultural courses of secondary grade in colleges, as well as 346 public high schools, 119 state or county normal schools, and 16 colleges, giving serious and definite training in agriculture.

Mr. True does not seem impress with a tendency which has forced itself upon the attention of others, namely, that of agricultural schools and colleges to branch out into quite different fields, and to duplicate existing provisions for instruction in literary, scientific, and engineering subjects. There is a good deal of a problem here as yet unsolved.

Where is the American Public School?

The newspapers have not in a long time contained so revolting a story as the account of the lynching in Cairo, Ill., on November 11. One wonders what has become of the American public school and of its boasted training in citizenship and in moral responsibility. To the American public schools most, if not all, of the Cairo mob must have gone at some time or other as pupils. Probably the mayor of Cairo once attended a public school. It is hardly possible that he was taught there the principles or the point of view that enabled him to say in explanation and defense of the lynching: "The feeling against crime that has so long been suppress has found vent, and I believe that Cairo will be peaceful and law-abiding hereafter." The way in which this noble and praiseworthy feeling against crime found vent is set forth in the following account published in the New York *Evening Post* of Friday, November 12:

> Many in the great mass of people had become impatient during the efforts to induce the man to make a statement, and there were demands for "work."
>
> "We don't want to hear him; string him up; kill him; burn him!" were frequently heard.
>
> The crowd pressed forward and the rope, thrown over the steel arch, which was in the hands of women, was pulled, and the body was jerked a few feet from the ground. Then the rope broke and the body came tumbling down. The mob by this time had become so impatient that they

fell upon the negro and riddled him with bullets. The body was dragged more than a mile thru the streets to the spot where the murder was committed and was burned.

Before the fire was started, which was ignited by a young woman, the negro's head was cut off and placed on one end of a pole, the other being stuck in the ground. The heart was taken out, cut up in small pieces, and passed among the men as souvenirs.

Pieces of the rope with which James had been hanged, after being soaked in the negro's blood, were also handed about as souvenirs.

This morning there is nothing left of the negro's body but a pile of bones. Large crowds of women are visiting the spot.

The lynching of Henry Salzner, the white man, for the murder of his wife on August 15 last, was a rebuke to delayed justice. The people asked for an immediate trial, and ever since the case was put off by the court, dissatisfaction has been universal.

Salzner's wife was able to state before she died that "He did it."

A great crowd of women were in the mob and they loudly called for Salzner's execution. His body was left lying in the street until morning, when it was claimed by his father.

Salzner begged piteously for his life, but he was greeted with jeers and blows. With the rope around his neck, he stated that his sister killed his wife, which so enraged the mob that they did not want to let him pray, but cooler heads prevailed and he was allowed a moment's respite.

No refinement of brutality and cruelty was lacking. Women were appropriately present in large and active numbers. Civilization was once more illustrated and justified by a great moral and spiritual outburst against crime. Truly the gods on Olympus have reason for their laughter as they look down on the desperate hypocrisies that so bring shame and disgrace on the people of the United States!

By the appointment of Professor David Snedden of Teachers College, Columbia University, to be Commissioner of Education for Massachusetts, that Commonwealth secures the services of a man who is one of the most competent students of school administration in the United States. Professor Snedden takes to his new post not only a well trained and scholarly mind, but no inconsiderable experience at home and abroad with problems of contemporary administration and development. He is the fourth member of the Columbia University faculties to be called within a short period to important executive posts, his predecessors having been President Wood-

ward of the Carnegie Institute, President Maclaurin of the Massachusetts Institute of Technology, and President Nichols of Dartmouth College.

From a querulous letter in *The Nation:*

> How is democracy to get the greatest good from learning and from highly trained minds? Can we, for example, build up a public sentiment like that which supported Mommsen in his famous fight with Bismarck, a sentiment which will guarantee the greatest possible freedom to the best thinkers?

Surely, the answer is not far to seek: Produce Mommsens!

As this number of the REVIEW goes to press we are advised that the place of meeting for the National Education Association in 1910 has not yet been chosen. For two months the Executive Committee and Secretary Shepard have been in vigorous daily negotiations with the representatives of the railroads, and, while the associations having terminals at the places most favored for the meeting are willing to make satisfactory terms, the Trunk Line Association, which blocked the holding of the semi-centennial meeting at Philadelphia in 1907, has again interposed and will not concur in the proposals of the lesser associations. Local enthusiasm at both Boston and San Francisco runs high, and either city would entertain the Association delightfully. It remains to be seen whether the railroads will permit the Association to meet at all, except as an assemblage of ordinary travelers.